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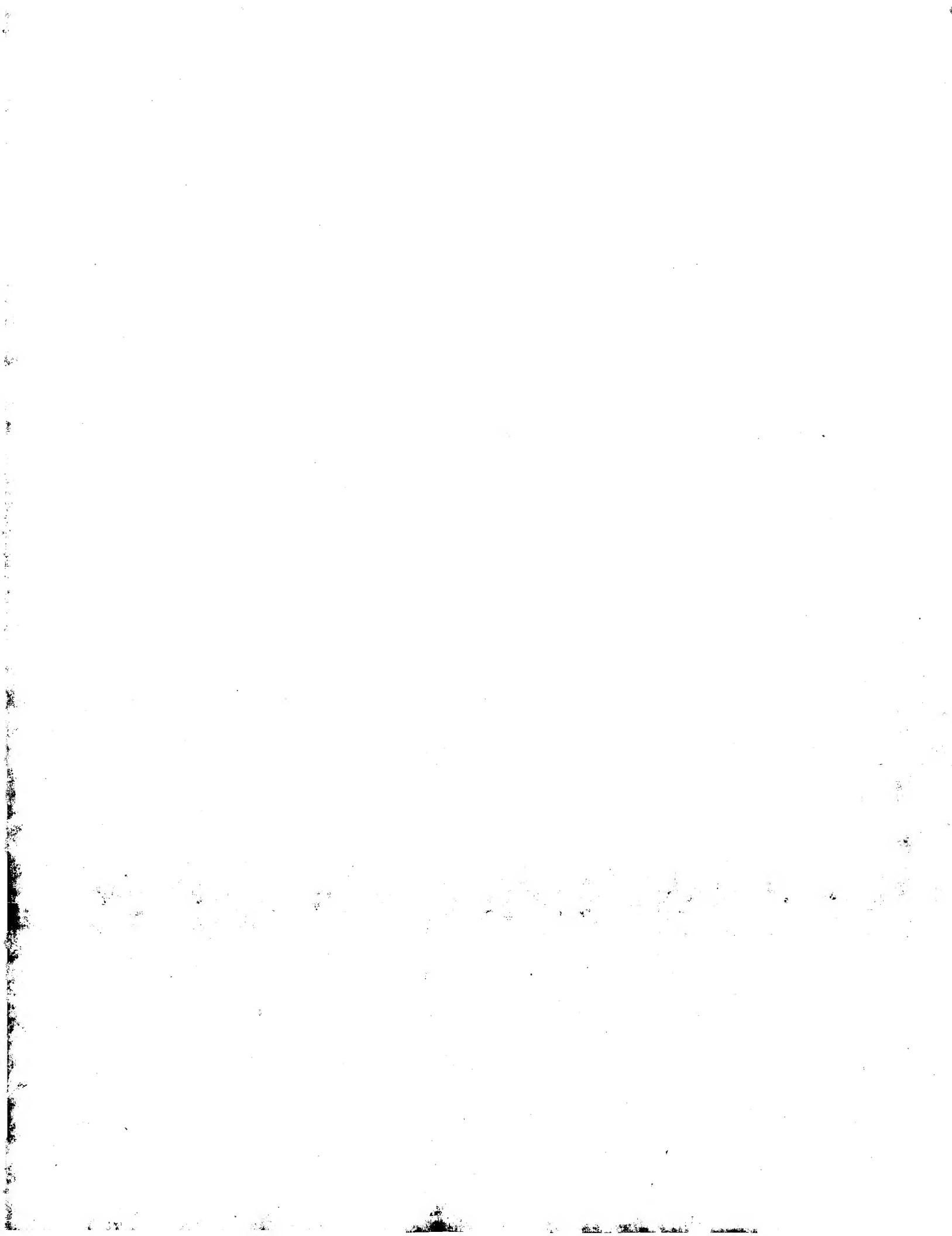
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**Table 4**  
**Single Exon Probes Expressed In Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|--|
| 6340             | 19110           | 32100          | 0.79              | 7.0E-21                    | AL163216.2            | NT                      | Homo sapiens chromosome 21 segment HS21C016  |
| 8237             | 20881           | 34121          | 1.53              | 7.0E-21                    | AJ277557.1            | NT                      | Homo sapiens dNT-2 gene for mitochondrial 5'(3')-deoxyribonucleotidase (dNT-2 gene), exons 1-5   |
| 8576             | 21268           | 34407          | 10.76             | 7.0E-21                    | D14718.1              | NT                      | [Human chromosomal protein HMG1 related gene   |
| 10013            | 22861           | 35877          | 0.86              | 7.0E-21                    | AW856822.1            | EST_HUMAN               | RC0-CT0301-271189-031-F03 CT0301 Homo sapiens cDNA clone IMAGE386881 3' similar to   |
| 10584            | 23298           | 36525          | 2.19              | 7.0E-21                    | AA723404.1            | EST_HUMAN               | zg73403_s1 Soares_fetal_heart_NbH-H19W Homo sapiens cDNA clone PRECURSOR (HUMAN) contains THR.33 ORF repetitive element;   |
| 11234            | 23697           | 37184          | 1.75              | 7.0E-21                    | 7706688               | NT                      | Homo sapiens PTD013 protein (PTD013), mRNA   |
| 4083             | 16627           | 29454          | 0.83              | 6.0E-21                    | BE408611.1            | EST_HUMAN               | 601304125F1NIH_MGC_21 Homo sapiens cDNA clone IMAGE3688310 5'  |
| 9034             | 21724           |                | 0.9               | 6.0E-21                    | BE162737.1            | EST_HUMAN               | PMI-HT0464-080100-002-h09 HT0454 Homo sapiens cDNA   |
| 903              | 13670           | 26334          | 0.7               | 5.0E-21                    | 6802031               | NT                      | Homo sapiens protein tyrosine phosphatase, non-receptor type 21 (PTPN21), mRNA   |
| 4330             | 17059           | 28897          | 2.91              | 5.0E-21                    | BE988838.1            | EST_HUMAN               | 601648871F1NIH_MGC_74 Homo sapiens cDNA clone IMAGE393880 6'   |
| 4749             | 17481           | 30112          | 5.58              | 5.0E-21                    | 4885474               | NT                      | Homo sapiens melanoma antigen, family C, 1 (MAGEC1), mRNA  |
| 6885             | 18582           |                | 0.9               | 5.0E-21                    | AW440864.1            | EST_HUMAN               | 1605910.X1 NCI_CGAP_CML1 Homo sapiens cDNA clone IMAGE2818154 3'   |
| 6917             | 19854           | 32700          | 0.88              | 5.0E-21                    | BE8586505.1           | EST_HUMAN               | 783411.X1 NCI_CGAP_P728 Homo sapiens cDNA clone IMAGE3303573 3' similar to contains ORF.11   |
| 10474            | 23120           | 36340          | 0.44              | 5.0E-21                    | Q91680                | SWISSPROT               | ZINC FINGER PROTEIN GL1 (GL1)  |
| 10474            | 23120           | 36350          | 0.44              | 5.0E-21                    | Q91680                | SWISSPROT               | ZINC FINGER PROTEIN GL1 (GL1)  |
| 11988            | 24527           |                | 2.88              | 5.0E-21                    | AA4893574.1           | EST_HUMAN               | 2172004.11 Soares_testis_NHT Homo sapiens cDNA clone IMAGE727818 5'  |
| 1727             | 14469           | 27168          | 1.81              | 4.0E-21                    | AA970713.1            | EST_HUMAN               | 0066508.s1 NCI_CGAP_K155 Homo sapiens cDNA clone IMAGE1573084 3' similar to TR-Q18530 Q18530   |
| 6772             | 18516           | 32544          | 3.27              | 4.0E-21                    | AB019578.1            | NT                      | FNS3 mRNA ;contains ORF.11 ORF repetitive element ; Rattus norvegicus mRNA for TIM, complete cds   |
| 8880             | 22232           | 35527          | 0.63              | 4.0E-21                    | U91328.1              | NT                      | Human hereditary haemochromatosis region, histone 2A-like protein gene, hereditary haemochromatosis (HLA-H) gene, RorRt gene, and sodium phosphate transporter (NPT3) gene, complete cds |
| 9705             | 22256           | 35552          | 0.7               | 4.0E-21                    | AL1632022.2           | NT                      | [Human] chromosome 21 segment HS21C002   |
| 1829             | 14568           | 27280          | 0.94              | 3.0E-21                    | AA218891.1            | EST_HUMAN               | zg1506.s1 Strategene fetal retina 837202 Homo sapiens cDNA clone IMAGE629771 3'  |
| 2272             | 14998           | 27736          | 1.24              | 3.0E-21                    | AL1632021.2           | NT                      | [Human] chromosome 21 segment HS21C001   |
| 3078             | 15843           | 28485          | 4.31              | 3.0E-21                    | AJ007973.1            | NT                      | Homo sapiens LGMD2B gene   |
| 5412             | 18211           | 30919          | 0.68              | 3.0E-21                    | AJ277557.1            | NT                      | Homo sapiens dNT-2 gene for mitochondrial 5'(3')-deoxyribonucleotidase (dNT-2 gene), exons 1-5   |
| 5412             | 18211           | 30820          | 0.68              | 3.0E-21                    | AJ277557.1            | NT                      | Homo sapiens dNT-2 gene for mitochondrial 5'(3')-deoxyribonucleotidase (dNT-2 gene), exons 1-5   |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source                         | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|---|---|
| 8652             | 18447           |                | 0.65              | 3.0E-21                    | AV681044.1            | EST_HUMAN                                       | AV681044 GLC Homo sapiens cDNA clone IMAGE:4084945 5'   |
| 6086             | 18864           |                | 2.3               | 3.0E-21                    | BF184738.1            | EST_HUMAN                                       | 601844465F1 NIH_MGC_54 Homo sapiens cDNA clone IMAGE:4084945 5'   |
| 6669             | 19451           | 32469          | 7.69              | 3.0E-21                    | BF361083.1            | EST_HUMAN                                       | RC1-Q10083-100800-018-g08 O7083 Homo sapiens cDNA CM1-NH0063-28040-203-h08 NN0063 Homo sapiens cDNA                           |
| 8892             | 22245           | 38429          | 1.15              | 3.0E-21                    | AW887760.1            | EST_HUMAN                                       |   |
| 12533            | 23327           | 30714          | 2.88              | 3.0E-21                    | AL168213.2            | NT  | Homo sapiens chromosome 21 segment HS21C1013  |
| 141              | 12856           |                | 17.18             | 2.0E-21                    | BE168247.1            | EST_HUMAN                                       | QV3-H1T0458-17/2020-080-g12 HT0458 Homo sapiens cDNA  |
| 914              | 13881           | 26342          | 1.85              | 2.0E-21                    | AB007857.2            | NT  | Homo sapiens mRNA for KIAA0397 protein, partial cds   |
| 914              | 13881           | 26343          | 1.85              | 2.0E-21                    | AB007857.2            | NT  | Homo sapiens mRNA for KIAA0397 protein, partial cds   |
| 1182             | 13844           |                | 2.75              | 2.0E-21                    | BE084410.1            | EST_HUMAN                                       | RC4-B10311-141188-011-n08 B10311 Homo sapiens cDNA  |
| 2844             | 15354           | 28098          | 1.88              | 2.0E-21                    | Q28983                | SWISSPROT                                       |   |
| 2644             | 16854           | 28099          | 1.98              | 2.0E-21                    | Q28983                | SWISSPROT                                       |   |
| 5398             | 18198           | 30890          | 1.64              | 2.0E-21                    | AB24682.1             | EST_HUMAN                                       | HYPOTHETICAL 51.1 KD PROTEIN;   |
| 5489             | 16288           | 31184          | 0.68              | 2.0E-21                    | AA027211.1            | EST_HUMAN                                       | z89761211 Soares_fetal_hear_Nbr-H19W Homo sapiens cDNA clone IMAGE:366810 5'  |
| 5489             | 16288           | 31185          | 0.88              | 2.0E-21                    | AA027211.1            | EST_HUMAN                                       | z89761211 Soares_fetal_hear_Nbr-H19W Homo sapiens cDNA clone IMAGE:366810 5'  |
| 8170             | 20884           | 33998          | 0.5               | 2.0E-21                    | AJ010770.1            | NT  | Homo sapiens hyperon gene, exons 1-50   |
| 8281             | 20855           | 34084          | 6.18              | 2.0E-21                    | BE147785.1            | EST_HUMAN                                       | QV0-H1T0103-091188-050-g11 HT0103 Homo sapiens cDNA   |
| 8722             | 21414           | 34557          | 3.74              | 2.0E-21                    | AU136779              | PLACE11 Homo sapiens cDNA clone PLACE1005052 5' |   |
| 10991            | 23865           |                | 1.55              | 2.0E-21                    | BE350127.1            | EST_HUMAN                                       | h09g01.x1 NCI_CGAP_Khd13 Homo sapiens cDNA clone IMAGE:3146256 3' similar to contains MER28.b2                                |
| 11289            | 23950           | 37248          | 1.3               | 2.0E-21                    | BE975828.1            | EST_HUMAN                                       | 6016806336F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE:3951008 5'  |
| 11289            | 23950           | 37247          | 1.3               | 2.0E-21                    | BE975828.1            | EST_HUMAN                                       | 6016806336F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE:3951008 5'  |
| 12272            | 24712           |                | 9.87              | 2.0E-21                    | AF176811.1            | NT  | Homo sapiens putative 8-hydroxyguanine DNA glycosylase gene, complete cds   |
| 1233             | 13982           | 26852          | 1.6               | 1.0E-21                    | AA557657.1            | EST_HUMAN                                       | h46c04.s1 NCI_CGAP_Pt4 Homo sapiens cDNA clone IMAGE:1043718 similar to contains MER28.b2                                     |
| 1381             | 14128           |                | 2.62              | 1.0E-21                    | AI601284.1            | EST_HUMAN                                       | mer88H12.x1 Bertrand cdna HPLRB7 Homo sapiens cDNA clone IMAGE:2152343 3'   |
| 6336             | 18185           |                | 2.74              | 1.0E-21                    | AL078752.1            | EST_HUMAN                                       | DKFZp4340830_T1424 (synonym: hts83) Homo sapiens cDNA clone DKFZp4340830 5'   |
| 7092             | 19781           | 32847          | 6.8               | 1.0E-21                    | AI223104.1            | EST_HUMAN                                       | gg47605.x1 Soares_tests_NHT Homo sapiens cDNA clone IMAGE:1838336 3' similar to gbt:MG4241 QM PROTEIN (HUMAN);                |
| 10484            | 23130           |                | 1.07              | 1.0E-21                    | 5730038               | NT  | Homo sapiens SET domain and mariner transposase fusion gene (SETMAR) mRNA   |
| 4377             | 17114           | 28747          | 5.65              | 9.0E-22                    | AI702488.1            | EST_HUMAN                                       | I234603.x1 NCI_CGAP_Kd11 Homo sapiens cDNA clone IMAGE:2286204 3' similar to TR:Q15408 Q15408 NEUTRAL PROTEASE LARGE SUBUNIT; |
| 8502             | 21184           | 34338          | 1.27              | 9.0E-22                    | AI16832012            | NT  | Homo sapiens chromosome 21 segment HS21C001   |
| 8502             | 21184           | 34337          | 1.27              | 9.0E-22                    | AI16832012            | NT  | Homo sapiens chromosome 21 segment HS21C001   |

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|------------------|-----------------|----------------|-------------------|----------------------------|---------------|-----------------------|---|---|---|
| 10891            | 23382           | 36822          | 2.63              | 9.0E-22                    | AV781874      | EST_HUMAN             | AV781874 MDS Homo sapiens cDNA clone MDSCCG305 5'       |   |   |
| 11707            | 24302           | 37627          | 1.34              | 9.0E-22                    | AU140358      | EST_HUMAN             | AU140358 PLACE2 Homo sapiens cDNA clone PLACE2003584 5' |   |   |
| 929              | 13698           |                |                   | 5.55                       | 8.0E-22       | BE144748              | EST_HUMAN   | CM0-HT0179-281098-076-H05 HT0179 Homo sapiens cDNA Zk87a81r1 Soares_pregnant uterus_NbHPU Homo sapiens cDNA clone IMAGE:487858 5' |   |
| 7797             | 20492           |                |                   | 3.72                       | 8.0E-22       | AA046502              | EST_HUMAN   | Zk87a81r1 Soares_pregnant uterus_NbHPU Homo sapiens cDNA clone IMAGE:487858 5'  |   |
| 650              | 13428           | 26067          | 5.92              | 7.0E-22                    | AL163246      | 2                     | NT  | Homo sapiens chromosome 21 segment HS21C046   |   |
| 4250             | 16891           | 28816          | 2.21              | 7.0E-22                    | Q61838        | SWISSPROT             | ALPHA-2-MACROGLOBULIN PRECURSOR (ALPHA2M)               |   |   |
| 4977             | 17700           | 30307          | 0.99              | 7.0E-22                    | AB008681      | 1                     | NT  | Homo sapiens gene for actinin receptor type II B, complete cds  |   |
| 8590             | 21282           |                |                   | 1.38                       | 7.0E-22       | AF151054              | 1   | Homo sapiens HSPC220 mRNA, complete cds   |   |
| 8791             | 21423           | 34868          | 3.68              | 7.0E-22                    | M78590        | 1                     | EST_HUMAN   | EST00738 Fetal brain, Stratagene (cat#836206) Homo sapiens cDNA clone HFBCF07   |   |
| 8502             | 22155           | 35535          | 2.04              | 7.0E-22                    | AF009660      | 0.1                   | NT  | Homo sapiens T cell receptor beta locus, TCRBV7/3A2 to TCRBV1/2S2 region  |   |
| 4038             | 18783           | 29413          | 0.98              | 6.0E-22                    | AA405040      | 1                     | EST_HUMAN   | Zu85d1r1 Soares_teeth_NHT Homo sapiens cDNA clone IMAGE:7428867 5'  |   |
| 8140             | 20834           |                |                   | 1.33                       | 6.0E-22       | AW029123              | 1   | EST_HUMAN   | Wa05g07_x1 NCI_CGAP_Gas4 Homo sapiens cDNA clone IMAGE:2542812 3' |
| 8424             | 19192           | 32188          | 3.76              | 5.0E-22                    | AL163032      | 2                     | NT  | Homo sapiens chromosome 21 segment HS21C103   |   |
| 10217            | 22885           | 36077          | 7.83              | 5.0E-22                    | U69822        | 1                     | NT  | Human dystrophin (DMD) gene, exons 7, 8 and 9, and partial cds  |   |
|                  |                 |                |                   |                            |               |                       |   | neab7b06_x1 NCI_CGAP_P728 Homo sapiens cDNA clone IMAGE:32556838 3' similar to contains AU repetitive element.                    |   |
| 12498            | 24854           |                |                   | 2.22                       | 5.0E-22       | BF478511              | 1   | EST_HUMAN   |   |
| 36227            | 16380           |                |                   | 0.85                       | 4.0E-22       | AJ271755              | 1   | NT  |   |
| 8004             | 20699           | 33827          |                   | 0.45                       | 4.0E-22       | AV703223              | 1   | EST_HUMAN   |   |
| 8312             | 25428           |                |                   | 3.11                       | 4.0E-22       | AL1632022             | NT  | Homo sapiens chromosome 21 segment HS21C002   |   |
| 10623            | 23316           | 36856          |                   | 2.47                       | 4.0E-22       | BF218030              | 1   | EST_HUMAN   |   |
| 12657            | 24857           |                |                   | 2.06                       | 4.0E-22       | AL163206              | 2   | NT  |   |
| 939              | 13708           |                |                   | 1.58                       | 3.0E-22       | AI468679              | 1   | EST_HUMAN   |   |
| 2576             | 15299           | 28028          |                   | 0.92                       | 3.0E-22       | AI869038              | 1   | EST_HUMAN   |   |
| 36822            | 18415           |                |                   | 1.48                       | 3.0E-22       | D14718                | 1   | NT  |   |
| 4748             | 17480           | 30111          |                   | 2.6                        | 3.0E-22       | AI090125              | 1   | EST_HUMAN   |   |
| 8129             | 20823           |                |                   | 0.8                        | 3.0E-22       | BE156813              | 1   | EST_HUMAN   |   |
| 8134             | 20828           | 33963          |                   | 2.46                       | 3.0E-22       | BE089841              | 1   | EST_HUMAN   |   |
| 82538            | 20952           | 34088          |                   | 0.97                       | 3.0E-22       | X60660                | 1   | NT  |   |
| 82538            | 20952           | 34089          |                   | 0.97                       | 3.0E-22       | X60660                | 1   | NT  |   |
| 1944             | 14881           |                |                   | 2.28                       | 2.0E-22       | N24942                | 1   | EST_HUMAN   |   |
| 2528             | 15242           | 27081          |                   | 2.15                       | 2.0E-22       | P24916                | SWISSPROT   | IMMEDIATE EARLY GENE 13 PROTEIN PRECURSOR   |   |

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|------------------|-----------------|----------------|-------------------|--------------------------------------|---|---|--------------------|
| 3414             | 16172           | 28821          | 4.41              | 2.0E-22                              | 8394043 NT  | Homo sapiens protein kinase, AMP-activated, gamma 3 non-catalytic subunit (PRKAC3), mRNA  |                    |
| 4200             | 168941          | 28567          | 1.17              | 2.0E-22                              | AW817784.1 EST HUMAN  | PM1-ST0262-261180-001-d12 ST0262 Homo sapiens cDNA  |                    |
| 5781             | 25075           | 31470          | 1.18              | 2.0E-22                              | W89456.1 EST HUMAN  | zz-20101.r1 Soares_senescent_fibroblasts_NbHSF Homo sapiens cDNA clone IMAGE322873 5' similar to  |                    |
| 6084             | 18882           | 31823          | 3.68              | 2.0E-22                              | BF092116.1 EST HUMAN  | db-X72308 MONOCYTE CHEMOTACTIC PROTEIN 3 PRECURSOR (HUMAN); RC0-TN0078-150800-026-h12 TN0079 Homo sapiens cDNA  |                    |
| 6602             | 22255           | 35440          | 1.53              | 2.0E-22                              | AI276522.1 EST HUMAN  | q176106.x1 Soares_NhMMPu_S1 Homo sapiens cDNA clone IMAGE1878289 3' similar to contains   |                    |
| 8698             | 22347           | 35540          | 0.69              | 2.0E-22                              | AA715315.1 EST HUMAN  | MER29_13 MER29 repetitive element; n04n11.s1 NCI CGAP_Pr22 Homo sapiens cDNA clone IMAGE1218269 3'  |                    |
| 9898             | 22347           | 35541          | 0.69              | 2.0E-22                              | AA715315.1 EST HUMAN  | n04n11.s1 NCI CGAP_Pr22 Homo sapiens cDNA clone IMAGE1218269 3'   |                    |
| 11761            | 24352           | 37684          | 1.68              | 2.0E-22                              | AW418680.1 EST HUMAN  | hs2404.x1 NCI CGAP_Kid12 Homo sapiens cDNA clone IMAGE287465 3'   |                    |
| 11872            | 24848           | 30983          | 3.71              | 2.0E-22                              | AL163280.2 NT   | Homo sapiens chromosome 21 segment HS21(C080)   |                    |
| 1871             | 14609           | 27320          | 1.79              | 1.0E-22                              | AW865517.1 EST HUMAN  | PM4-SN0020-010400-009-R02 SN0020 Homo sapiens cDNA  |                    |
| 2588             | 16302           | 28038          | 1.1               | 1.0E-22                              | U50871.1 NT   | Human familial Alzheimer's disease (STM2) gene, complete cds  |                    |
| 3405             | 16163           | 28814          | 1.37              | 1.0E-22                              | D14547.1 NT   | Human DNA, SINE repetitive element  |                    |
| 7841             | 20308           | 33415          | 0.89              | 1.0E-22                              | BEE84687.1 EST HUMAN  | MRQ-BT0689-220200-002-h07 BT0689 Homo sapiens cDNA  |                    |
| 10451            | 23097           | 36328          | 0.79              | 1.0E-22                              | AI385435.1 EST HUMAN  | q203907.x1 NCI CGAP_CLL1 Homo sapiens cDNA clone IMAGE2020881 3' similar to contains MER29.b2   |                    |
| 10451            | 23097           | 36329          | 0.79              | 1.0E-22                              | AI385435.1 EST HUMAN  | MER29 repetitive element;   |                    |
| 12704            | 24984           | 589            | 9.0E-23           | AW802801.1 EST HUMAN                 | q203907.x1 NCI CGAP_CLL1 Homo sapiens cDNA clone IMAGE2020881 3' similar to contains MER29.b2 |   |                    |
| 3657             | 16312           | 28959          | 0.79              | 8.0E-23                              | AF198849.1 NT   | II-2-UM0078-070400-061-F11 UM0078 Homo sapiens cDNA   |                    |
| 3305             | 16065           | 2.55           | 7.0E-23           | AV647246.1 EST HUMAN                 | Gallus gallus Dach2 protein (Dach2) mRNA, complete cds  |   |                    |
| 10668            | 23642           | 36895          | 4.16              | 7.0E-23                              | 5031952 NT  | AV647246 GLC Homo sapiens cDNA clone GLCAWC07 3'  |                    |
| 3427             | 16184           | 1.72           | 6.0E-23           | AF198833.1 NT                        | Homo sapiens Not56 (D_melanogaster)-like protein (NOT56L) mRNA                                |   |                    |
| 4235             | 16976           | 28601          | 1.39              | 6.0E-23                              | AL163249.2 NT   | Rattus norvegicus RIM1B (Rim1B) mRNA, complete cds  |                    |
| 12005            | 24540           | 31105          | 1.6               | 6.0E-23                              | AF224669.1 NT   | Homo sapiens mannosidase, beta A, lysosomal (MANBA) gene, and ubiquitin-conjugating enzyme E2D 3 (UBE2D3) genes, complete cds   |                    |
| 12005            | 24540           | 31106          | 1.5               | 6.0E-23                              | AF224669.1 NT   | Homo sapiens mannosidase, beta A, lysosomal (MANBA) gene, and ubiquitin-conjugating enzyme E2D 3 (UBE2D3) genes, complete cds   |                    |
| 12192            | 24663           | 31057          | 3.28              | 6.0E-23                              | AI209130.1 EST HUMAN  | q859c03.x1 Soares_tests_NHT Homo sapiens cDNA clone IMAGE1839460 3' similar to  |                    |
| 5358             | 18160           | 30844          | 4.09              | 6.0E-23                              | U82671.2 NT   | SW.MV10_MOUSE P23249 PROTEIN MOV-10 :   |                    |
|                  |                 |                |                   |                                      |   | Homo sapiens chromosome Xq28 melanoma antigen family A2a (MAGEA2A), melanoma antigen family A12 (MAGEA12), melanoma antigen family A2b (MAGEA2B), melanoma antigen family A3 (MAGEA3), cathepsin (CALT), NAD(PH) dehydrogenase-like protein (NSDH-L), and L1> |                    |

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|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|---|
| 6145             | 250983          | 31883          | 3.83              | 6.0E-23                          | AF78818.1             | NT                      | Pango Pygmaeus olfactory receptor (PPY116) gene, partial cds  |
| 7387             | 250983          | 31883          | 3.37              | 5.0E-23                          | AF78818.1             | NT                      | Pango Pygmaeus olfactory receptor (PPY116) gene, partial cds  |
| 6347             | 18117           | 32106          | 1.34              | 3.0E-23                          | AL163227.2            | NT                      | Human sapiens chromosome 21 segment HS21C027  |
| 6347             | 18117           | 32107          | 1.34              | 3.0E-23                          | AL163227.2            | NT                      | Human sapiens chromosome 21 segment HS21C027  |
| 7738             | 20434           | 336558         | 4.1               | 3.0E-23                          | AA130165.1            | EST_HUMAN               | Z35g09.11 Soares_pregnant uterus_NbHPU Homo sapiens cDNA clone IMAGE:6036968 5' similar to contains MER28.12 MER29 repetitive element;  |
| 9148             | 21878           | 35045          | 2.96              | 3.0E-23                          | Z70684.1              | NT                      | Human endogenous retroviral element HC2   |
| 9148             | 21878           | 35046          | 2.98              | 3.0E-23                          | Z70684.1              | NT                      | Human endogenous retroviral element HC2   |
| 10215            | 22883           |                | 1.18              | 3.0E-23                          | AW897827.1            | EST_HUMAN               | RC3-HN0086-270400-0111-h101 NN0086 Homo sapiens cDNA  |
| 681              | 13429           | 28068          | 4.25              | 2.0E-23                          | AJ289880.1            | NT                      | Human sapiens KIAA0857 gene (partial), X73 gene and L27FL1 gene   |
| 1120             | 15520           |                | 3.87              | 2.0E-23                          | M55270.1              | NT                      | Human matrix Gla protein (MGP) gene, complete cds   |
| 2798             | 16503           | 28243          | 1.98              | 2.0E-23                          | P22105                | SWISSPROT               | TENASCIN-X PRECURSOR (TN-X) (HEXABRACHION-LIKE)   |
| 2798             | 16503           | 28244          | 1.98              | 2.0E-23                          | P22105                | SWISSPROT               | TENASCIN-X PRECURSOR (TN-X) (HEXABRACHION-LIKE)   |
| 3364             | 16123           |                | 1.46              | 2.0E-23                          | AI201458.1            | EST_HUMAN               | Q873H1_X1 NCI_CGAP_P128 Homo sapiens cDNA clone IMAGE:1943767 3' similar to TRQ13537 Q13537   |
| 3705             | 18458           |                | 3.35              | 2.0E-23                          | BE1665980.1           | EST_HUMAN               | MER37 TRANSPORTABLE ELEMENT, COMPLETE CONSENSUS SEQUENCE ;  |
| 3858             | 167077          | 28346          | 3.66              | 2.0E-23                          | HS6931.1              | EST_HUMAN               | Y16602.1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:205418 5'  |
| 3958             | 167077          | 28347          | 3.65              | 2.0E-23                          | HS6931.1              | EST_HUMAN               | Y16602.1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:205418 5'  |
| 7772             | 20468           |                | 4.3               | 2.0E-23                          | AF280107.1            | NT                      | Human sapiens cytochrome P450 polypeptide 43 (CYP3A43) gene, partial cds; cytochrome P450 polypeptide 4 (CYP3A4) and cytochrome P450 polypeptide 7 (CYP3A7) genes, complete cds; and cytochrome P450 polypeptide 5 (CYP3A5) gene, partial cds |
| 8742             | 21434           | 34578          | 1.21              | 2.0E-23                          | AL163303.2            | NT                      | Human sapiens chromosome 21 segment HS21C103  |
| 11881            | 24530           |                | 2.45              | 2.0E-23                          | M32658.1              | NT                      | Human alcohol dehydrogenase gamma subunit (ADH3) gene, exon 1   |
| 12508            | 24850           |                | 2.87              | 2.0E-23                          | AF009650.1            | NT                      | Human sapiens T cell receptor beta locus, TCRBV7SS342 to TCRBV12S2 region   |
| 4482             | 17228           | 28857          | 1.1               | 1.0E-23                          | AL163252.2            | NT                      | Human sapiens chromosome 21 segment HS21C052  |
| 4714             | 17448           |                | 5.56              | 1.0E-23                          | AL163210.2            | NT                      | Human sapiens chromosome 21 segment HS21C010  |
| 6820             | 18382           |                | 3.28              | 1.0E-23                          | BS878471.1            | EST_HUMAN               | 601236455F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3608653 5'   |
| 8254             | 20848           | 34085          | 4.8               | 1.0E-23                          | AA448097.1            | EST_HUMAN               | ZW82C06.1 Soares testis_NH1 Homo sapiens cDNA clone IMAGE:782698 5' similar to contains PTR6.12 PTR5 repetitive element;  |
| 10570            | 23265           | 36503          | 2.05              | 1.0E-23                          | BE409843.1            | EST_HUMAN               | 601301762F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3636254 5'   |
| 10570            | 23265           | 36504          | 2.05              | 1.0E-23                          | BE409843.1            | EST_HUMAN               | 601301762F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3636254 5'   |
| 539              | 13322           |                | 1.84              | 9.0E-24                          | AA683213.1            | EST_HUMAN               | ab75a08.s1 Strategene fetal retina 03/2022 Homo sapiens cDNA clone IMAGE:3652708 3' similar to TR-E19822 E19822 CA PROTEIN. ;   |
| 6357             | 18127           | 32121          | 1.53              | 8.0E-24                          | 11422027              | NT                      | Human sapiens capping protein (actin filament) muscle Z-line, alpha 2 (CAPZ2), mRNA   |

Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor  |  |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|--|---|--|
| 3853             | 16603           |                | 1.49              | 7.0E-24 AW837854.1               | EST_HUMAN             | Q0-DT0047-170200-122-e06 DT0047 Homo sapiens cDNA  |   |  |
| 5087             | 17808           |                | 0.95              | 7.0E-24 AL038498.1               | EST_HUMAN             | DKFZp4S4A2311_r1_434 (synonym: Itmes3) Homo sapiens cDNA clone DKFZp434A2311 5'  |   |  |
| 10536            | 22233           |                | 1.33              | 7.0E-24 AW303317.1               | EST_HUMAN             | x1703_x1 Scores NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2813405 3' similar to contains AU repetitive element/contains MER19;12 MER19 repetitive element : |   |  |
| 680              | 13465           |                | 2.72              | 6.0E-24 AB001421.1               | NT                    | Macaca fasciata mRNA for Testis-Specific Protein Y (TSPY), complete cds  |   |  |
| 818              | 13589           |                | 11.74             | 6.0E-24 AL163249.2               | NT                    | Homo sapiens chromosome 21 segment HS21C049  |   |  |
| 3953             | 16703           |                | 7.9               | 6.0E-24 AJ228043.1               | NT                    | Homo sapiens 959 kb contig between AML1 and CBR1 on chromosome 21q22, segment 3/3  |   |  |
| 7657             | 20321           |                | 33430             | 0.58                             | 5.0E-24 AF223391.1    | NT   | Homo sapiens calcium channel alpha1E subunit (CACNA1E) gene, exons 7-9, and partial cds, alternatively spliced            |  |
| 11586            | 24184           |                | 37513             | 1.45                             | 5.0E-24 AW514229.1    | EST_HUMAN  | hd24b03_x1 Scores NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2810413 3' similar to TR:094851 Oe4851 KIAA0750 PROTEIN.;    |  |
| 5840             | 18828           | 31563          | 3.86              | 4.0E-24 AA594178.1               | EST_HUMAN             | mp31h05_s1_NCI_CGAP_Gas1 Homo sapiens cDNA clone IMAGE:1085525 3' similar to SWFPOL_MLYRK P31795 POL_POLYPROTEIN;  |   |  |
| 8581             | 24273           | 34411          | 1.35              | 4.0E-24 AW813711.1               | EST_HUMAN             | RC3-ST0197-130100-014-006 ST0197 Homo sapiens cDNA   |   |  |
| 11133            | 23801           |                | 37078             | 1.95                             | 4.0E-24 BE544822.1    | EST_HUMAN  | 601078812F1 NIH_MGC_12 Homo sapiens cDNA clone IMAGE:34644488 5'  |  |
| 12361            | 24765           | 31062          | 4.89              | 4.0E-24 AB028016.1               | NT                    | Homo sapiens mRNA for KIAA1088 protein, partial cds  |   |  |
| 12595            | 24851           | 30986          | 1.77              | 4.0E-24 11418318.1               | NT                    | Homo sapiens G-2 and S-phase expressed 1 (GTSE1), mRNA   |   |  |
| 8322             | 21015           |                |                   | 2.85                             | 3.0E-24 AW614871.1    | EST_HUMAN  | hd68c08_x1 NCI_CGAP_GU1 Homo sapiens cDNA clone IMAGE:28679350 3' similar to contains MER28_b2 MER29 repetitive element ; |  |
| 8377             | 21070           |                |                   | 1.57                             | 3.0E-24 AW862076.1    | EST_HUMAN  | EST374149 MAGE sequences, MAGG Homo sapiens cDNA  |  |
| 8385             | 21840           | 35114          | 4.33              | 3.0E-24 AL163252.2               | NT                    | Homo sapiens chromosome 21 segment HS21C052  |   |  |
| 12438            | 24808           | 31045          | 1.41              | 3.0E-24 BF127762.1               | EST_HUMAN             | 60181044F1 NIH_MGC_46 Homo sapiens cDNA clone IMAGE:4053398 5'   |   |  |
| 2346             | 15069           | 27806          | 2.72              | 2.0E-24 AA167539.1               | EST_HUMAN             | mp1108_r1 Strategene fetal retina 837202 Homo sapiens cDNA clone IMAGE:609161 5'   |   |  |
| 3778             | 16831           |                |                   | 1.01                             | 2.0E-24 AW898189.1    | EST_HUMAN  | RC3-NIN0068-090500-021-h03 NIN0068 Homo sapiens cDNA  |  |
| 7374             | 20054           | 33135          | 0.81              | 2.0E-24 AF088824.1               | NT                    | Mus musculus rho/crac-interacting citron kinase (Crk) mRNA, complete cds   |   |  |
| 7379             | 20059           | 33138          | 0.65              | 2.0E-24 AJ003538.1               | EST_HUMAN             | AJ003538 Selected chromosome 21 cDNA library Homo sapiens cDNA clone MP112-5H13  |   |  |
| 8639             | 21331           | 34478          | 3.28              | 2.0E-24 AL118153.1               | EST_HUMAN             | DKFZp761L1712_r1_781 (synonym: hamy2) Homo sapiens cDNA clone DKFZp761L1712 5'   |   |  |
| 8678             | 21368           |                |                   |                                  |                       | y82b09_r1 Scores fetal liver spleen 1NF1LS Homo sapiens cDNA clone IMAGE:212728 5' similar to contains MER28 repetitive element ;                            |   |  |
| 9754             | 22405           | 35611          | 0.84              | 2.0E-24 AI521758.1               | EST_HUMAN             | ff77a09_x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:2138008 3'   |   |  |
| 9754             | 22405           | 35612          | 0.94              | 2.0E-24 AI521758.1               | EST_HUMAN             | ff77a09_x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:2138008 3'   |   |  |
| 11825            | 24409           | 37744          | 1.31              | 2.0E-24 AW868652.1               | EST_HUMAN             | MR1-SN0063-040500-001-e06 SN0063 Homo sapiens cDNA   |   |  |
| 11825            | 24409           | 37745          | 1.31              | 2.0E-24 AW868652.1               | EST_HUMAN             | MR1-SN0063-040500-001-e06 SN0063 Homo sapiens cDNA   |   |  |
| 12281            | 23377           |                | 7.44              | 2.0E-24 M28877.1                 | NT                    | Human O family dispersed repeat element  |   |  |

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**Table 4**  
**Single Exon Probes Expressed In Brain**

| Probe SEQ ID NO. | Exon seq ID NO. | ORF seq ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 1691             | 14435           | 27131          | 2.69              | 1.0E-24                              | 7706340               | NT                      | Human sapiens CGL-127 protein (LOC51646), mRNA  |
| 2679             | 15388           |                | 1.63              | 1.0E-24                              | AW820184.1            | EST_HUMAN               | Q70-ST0294-100400-185-c10 ST0294 Homo sapiens cDNA  |
| 3020             | 15786           | 28433          | 1.49              | 1.0E-24                              | D86423.1              | NT                      | Mus musculus mRNA for HGT keratin, partial cds  |
| 4237             | 16978           |                | 1.71              | 1.0E-24                              | AF143313.1            | NT                      | Human sapiens PTEN (PTEN) gene, exon 2  |
| 7447             | 20123           | 33214          | 4.32              | 1.0E-24                              | AL163303.2            | NT                      | Human sapiens chromosome 21 segment HS21C103  |
| 7830             | 20296           | 33404          | 0.81              | 1.0E-24                              | BE144528.1            | EST_HUMAN               | MR0-HT0168-271198-005-d09 HT0168 Homo sapiens cDNA  |
| 7845             | 20540           | 33867          | 2.09              | 1.0E-24                              | AW80164.1             | EST_HUMAN               | CMD-NN1010-130300-281-d07 NN1010 Homo sapiens cDNA  |
| 11689            | 24294           | 37619          | 1.31              | 9.0E-25                              | 7706707               | NT                      | Human sapiens putative secreted protein (SIG11), mRNA   |
| 4839             | 17887           | 30275          | 2.33              | 7.0E-25                              | AA483944.1            | EST_HUMAN               | ne92e0.s1 NCI_CGAP_Kid1 Homo sapiens cDNA clone IMAGE:911754 similar to contains MER1.b2                                |
| 8117             | 20811           | 33946          | 6.59              | 7.0E-25                              | AA468846.1            | EST_HUMAN               | MER1 repetitive element;  |
| 11701            | 24298           | 37622          | 3.28              | 7.0E-25                              | AA583540.1            | EST_HUMAN               | ne06a08.s1 NCI_CGAP_Co3 Homo sapiens cDNA clone IMAGE:380408 3' similar to contains THR.b2 THR repetitive element;      |
| 68883            | 17869           |                | 4.9               | 6.0E-25                              | W87023.1              | EST_HUMAN               | ne25h06.s1 NCI_CGAP_Pt1 Homo sapiens cDNA clone IMAGE:914843 similar to SW:R14A_YEAST                                   |
| 7622             | 20288           | 33397          | 8.34              | 6.0E-25                              | 7305360               | NT                      | P26105 PROBABLE 60S RIBOSOMAL PROTEIN L14EA ;   |
| 1847             | 14383           | 27083          | 1.18              | 6.0E-25                              | AW850271.1            | EST_HUMAN               | I9-C-T0219-161198-031-D04 CT0219 Homo sapiens cDNA  |
| 11286            | 23347           | 37242          | 2.44              | 5.0E-25                              | AW879107.1            | EST_HUMAN               | EST391217 MAGE resequences, MAGP Homo sapiens cDNA  |
| 14289            | 14176           | 26881          | 2.25              | 4.0E-25                              | T98107.1              | EST_HUMAN               | ye56h04.r1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:121783 5                                       |
| 3397             | 16155           |                | 3.04              | 4.0E-25                              | AW887671.1            | EST_HUMAN               | PN3-OT0083-280200-001-907 OT0083 Homo sapiens cDNA  |
| 4222             | 17021           |                | 2.93              | 4.0E-25                              | BE170857.1            | EST_HUMAN               | QY3-HT0543-140400-149-e11 HT0543 Homo sapiens cDNA  |
| 3314             | 16074           | 28724          | 3.98              | 3.0E-25                              | 89223321              | NT                      | Human sapiens hypothetical protein FLJ20344 (FLJ20344), mRNA  |
| 3314             | 16074           | 28725          | 3.98              | 3.0E-25                              | 89223321              | NT                      | Human sapiens hypothetical protein FLJ20344 (FLJ20344), mRNA  |
| 4837             | 17568           | 30180          | 0.75              | 3.0E-25                              | P296222               | SWISSPROT               | KALLISTATIN PRECURSOR (KALLIKREIN INHIBITOR 4)  |
| 6518             | 19284           | 32288          | 0.6               | 3.0E-25                              | AA603590.1            | EST_HUMAN               | mp27902.s1 NCI_CGAP_Pt22 Homo sapiens cDNA clone IMAGE:1117515 3' similar to g3:NM18666 Zinc FINGER PROTEIN 85 (HUMAN); |
| 8235             | 20929           | 34065          | 4.86              | 3.0E-25                              | AL1632102             | NT                      | Human sapiens chromosome 21 segment HS21C010  |
| 10889            | 23635           | 36886          | 1.99              | 3.0E-25                              | AA679013.1            | EST_HUMAN               | mf30h10.s1 NCI_CGAP_Pt1 Homo sapiens cDNA clone IMAGE:915331 similar to contains L1.H L1 repetitive element;            |
| 1326             | 14075           | 26749          | 2.94              | 2.0E-25                              | 5032158               | NT                      | Human sapiens transducin (beta)-like 1 (TBL1) mRNA  |
| 2306             | 15031           | 27768          | 6.42              | 2.0E-25                              | BE888016.1            | EST_HUMAN               | 6015115301Fl NIH_MGC_71 Homo sapiens cDNA clone IMAGE:3913087 5   |
| 2835             | 15259           | 27987          | 3.67              | 2.0E-25                              | P17008                | SWISSPROT               | 40S RIBOSOMAL PROTEIN S16   |
| 4167             | 16807           | 29535          | 1.73              | 2.0E-25                              | P17008                | SWISSPROT               | 40S RIBOSOMAL PROTEIN S16   |
| 4167             | 16807           | 29536          | 1.73              | 2.0E-25                              | P17008                | SWISSPROT               | 40S RIBOSOMAL PROTEIN S16   |

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Table 4.

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 8685             | 22317           | 38514          | 1.84              | 2.0E-25                              | AL448673.1            | EST_HUMAN               | AL448673 Homo sapiens Testis (Starvides GS) Homo sapiens cDNA  |
| 355              | 13153           | 25784          | 1.03              | 1.0E-25                              | AL040229.1            | EST_HUMAN               | DKFZp434H0313_1f_434 (synonym: #hsa3) Homo sapiens cDNA clone DKFZp434H0313_5'   |
| 1226             | 13976           |                |                   | 2.02                                 | 1.0E-25               | 9835487                 | NT<br>Human endogenous retrovirus, complete genome   |
| 2426             | 16168           | 27890          | 1.03              | 1.0E-25                              | Q06055                | SWISSPROT               | ATP SYNTHASE LIPID-BINDING PROTEIN P2 PRECURSOR /ATPASE PROTEIN 9 (SUBUNIT C)  |
| 4806             | 17537           | 30160          | 2.84              | 1.0E-25                              | BE16273.1             | EST_HUMAN               | PM1+TT0454-080100-002-h08 HT0454 Homo sapiens cDNA   |
|                  |                 |                |                   |                                      |                       |                         | ZF45b08.s1 Stratagene TNT neuron (#837723) Homo sapiens cDNA clone IMAGE:632627 3' similar to  |
| 6472             | 18239           |                |                   | 0.70                                 | 1.0E-25               | AA183080.1              | EST_HUMAN<br>contains Alu repetitive element;  |
| 6889             | 25100           | 32657          | 3.14              | 1.0E-25                              | AA582690.1            | EST_HUMAN               | nm5411.s1 NCL CGAP Kid8 Homo sapiens cDNA clone IMAGE:1087749 3'   |
| 7814             | 20509           | 33633          | 4.03              | 1.0E-25                              | AA709070.1            | EST_HUMAN               | ZF8604.s1 Soares_fetal_heart_Nb-H19W Homo sapiens cDNA clone IMAGE:384822 3' similar to contains   |
| 8446             | 22123           | 353202         | 0.75              | 1.0E-25                              | X60690.1              | NT                      | PTR5.13 PTR5 repetitive element;   |
| 9448             | 22123           | 35303          | 0.75              | 1.0E-25                              | X60690.1              | NT                      | R.rattus RY2G5 mRNA for a potential ligand-binding protein   |
| 10890            | 23570           | 36821          | 3.06              | 1.0E-25                              | U83163.1              | NT                      | Homo sapiens MAGE-B2 (MAGE-B2), MAGE-B3 (MAGE-B3), MAGE-B4 (MAGE-B4), and MAGE-B1 (MAGE-B1) genes, complete cds  |
| 12768            | 25024           |                |                   | 2.18                                 | 1.0E-25               | X31753.1                | NT<br>Human IgM-immunoglobulin constant region complex (germline)  |
| 2487             | 15204           | 27945          | 1.41              | 9.0E-25                              | AL163218.2            | NT                      | Homo sapiens chromosome 21 segment HS21C018  |
| 6607             | 18403           |                |                   | 1.89                                 | 8.0E-26               | D14547.1                | NT<br>Human DNA, SINE repetitive element   |
| 1571             | 14318           | 27003          |                   | 1.72                                 | 7.0E-26               | AF003528.1              | NT<br>Homo sapiens X-linked anhidrotic ectodermal dysplasia protein gene (EDA), exon 2 and flanking repeat regions   |
| 3982             | 16711           | 28351          |                   | 1.23                                 | 7.0E-26               | X89211.1                | NT<br>H.sapiens DNA for endogenous retroviral like element   |
| 4138             | 16880           | 28508          |                   | 2.27                                 | 7.0E-26               | AW340153.1              | EST_HUMAN<br>hs02612x1 Soares_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2908366 3'  |
| 5551             | 18348           | 31257          |                   | 0.62                                 | 7.0E-26               | AL1632022               | NT<br>Homo sapiens chromosome 21 segment HS21C002  |
| 11669            | 24284           |                |                   | 8.45                                 | 7.0E-26               | AA115895.1              | zr30d08.s1 Stratagene neuroepithelium NT2RAM1 837234 Homo sapiens cDNA clone IMAGE:548943 5'<br>similar to gbm14338 VITAMIN K-DEPENDENT PROTEIN S PRECURSOR (HUMAN); |
| 12547            | 24885           |                |                   | 1.64                                 | 7.0E-26               | AW954589.1              | EST_HUMAN<br>EST186629 MAGE resequences, MGIC Homo sapiens cDNA  |
| 2222             | 14950           | 27689          |                   | 2.04                                 | 6.0E-26               | AF028303.1              | NT<br>Homo sapiens chromosome 9 duplication of the T cell receptor beta locus and trypsinogen gene families  |
| 3341             | 16100           | 28752          |                   | 0.95                                 | 6.0E-26               | AA209131.1              | EST_HUMAN<br>zr52h04.11 Stratagene neuroepithelium (#837231) Homo sapiens cDNA clone IMAGE:645271 5'   |
| 10432            | 23078           | 36301          |                   | 0.68                                 | 6.0E-26               | AL1632022               | NT<br>Homo sapiens chromosome 21 segment HS21C002  |
| 10432            | 23078           | 36302          |                   | 0.68                                 | 6.0E-26               | AL1632022               | NT<br>Homo sapiens chromosome 21 segment HS21C002  |
| 11683            | 24278           | 37600          |                   | 2.03                                 | 6.0E-26               | AL1632102               | NT<br>Homo sapiens chromosome 21 segment HS21C010<br>as38h08.x1 Barsteed sora HPLRBS Homo sapiens cDNA clone IMAGE:2308510 3' similar to                             |
| 1154             | 13909           | 28572          |                   | 3.61                                 | 5.0E-26               | A1708235.1              | WP:F49C12.11 CE038371;<br>WP:F49C12.11 CE038371;   |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|---|
| 1154             | 13909           | 26573          | 3.61              | 5.0E-26                    | AI708235.1            | EST_HUMAN               | ss38108_x1 Barstead ecto-HPLRB6 Homo sapiens cDNA clone IMAGE:2318519 3' similar to WPF48C12.11 CE03371;  |
| 1635             | 14282           |                | 1.4               | 4.0E-26                    | AA329548.1            | EST_HUMAN               | EST33446 Embryo, 12 week    Homo sapiens cDNA 5' end  |
| 8312             | 21978           |                | 3.72              | 4.0E-26                    | 7657670               | NT                      | Homo sapiens upstream binding transcription factor, RNA polymerase I (UBTF), mRNA   |
| 10568            | 23254           | 36191          | 2.75              | 4.0E-26                    | BE268187.1            | EST_HUMAN               | 601191345F1 NIH_MGCC_7 Homo sapiens cDNA clone IMAGE:3535210 5'   |
| 1753             | 14495           | 27194          | 1.21              | 3.0E-26                    | D14547.1              | NT                      | Human DNA, SINE repetitive element  |
| 1686             | 14792           | 27454          | 1.31              | 3.0E-26                    | AL045855.2            | EST_HUMAN               | DKF744341068_x1_434 (synonym: Hts3) Homo sapiens cDNA clone DKF744341068 5'   |
| 2025             | 14780           |                | 3.15              | 3.0E-26                    | AA115895.1            | EST_HUMAN               | 2730408_x1 Strategene neuroepithelium NT2RAMI 837234 Homo sapiens cDNA clone IMAGE:548043 5'  |
| 3700             | 16512           | 29148          | 1.04              | 3.0E-26                    | AA152484.1            | EST_HUMAN               | similar to gMI4338 VITAMIN K-DEPENDENT PROTEIN S PRECURSOR (HUMAN); G685374 THYROID RECEPTOR INTERACTOR;  |
| 3780             | 16512           | 29149          | 1.04              | 3.0E-26                    | AA152484.1            | EST_HUMAN               | 203010.1_1 Strategene colon (#837204) Homo sapiens cDNA clone IMAGE:588427 5' similar to TR:G685374   |
| 6811             | 19472           | 32495          | 1.78              | 3.0E-26                    | BF245458.1            | EST_HUMAN               | G685374 THYROID RECEPTOR INTERACTOR;  |
| 10626            | 23319           |                | 1.42              | 3.0E-26                    | AF036405.1            | NT                      | Homo sapiens MLL (MLL) gene, exons 1-3, and partial cds   |
| 11559            | 24168           | 37468          | 1.83              | 3.0E-26                    | AW875665.1            | EST_HUMAN               | QV2-PT0012-040400-124-005 PT0012 Homo sapiens cDNA  |
| 11669            | 24168           | 37469          | 1.83              | 3.0E-26                    | AW875665.1            | EST_HUMAN               | QV2-PT0012-040400-124-005 PT0012 Homo sapiens cDNA  |
| 11602            | 24201           | 37523          | 6.58              | 3.0E-26                    | AA583173.1            | EST_HUMAN               | QV2-PT0012-040400-124-005 PT0012 Homo sapiens cDNA  |
| 11858            | 24442           | 37783          | 1.36              | 3.0E-26                    | AF228925.1            | NT                      | rr37d05_s1 NCI CGAP_GCS Homo sapiens cDNA clone IMAGE:1088057 3' similar to contains ORFR_H OFR repetitive element;   |
| 12724            | 24895           |                | 2.52              | 3.0E-26                    | AW073434.1            | EST_HUMAN               | Mus musculus harmonin isoform b3 (Ush1c) mRNA, complete cds, alternatively spliced  |
| 686              | 13442           | 26083          | 6.76              | 2.0E-26                    | AL1632822             | NT                      | xa57009_x1 NCI CGAP_HSC2 Homo sapiens cDNA clone IMAGE:2670573 3' similar to contains MER30_H MER30 repetitive element;   |
| 1881             | 14589           |                | 3.07              | 2.0E-26                    | AL038099.2            | EST_HUMAN               | Home sapiens chromosome 21 segment HS21_C082  |
| 3225             | 15898           | 28642          | 5.89              | 2.0E-26                    | X88894.1              | NT                      | DKF745661.171_171 3' M.musculus mRNA for astrotypic phosphoprotein, PEA-15  |
| 5147             | 17886           |                | 1.09              | 2.0E-26                    | AF073482.1            | NT                      | Home sapiens myotubularin related protein 7 mRNA, partial cds   |
| 10653            | 23344           |                | 2.7               | 2.0E-26                    | D87675.1              | NT                      | Home sapiens DNA for amyloid precursor protein, complete cds  |
| 11180            | 23843           | 37132          | 3                 | 2.0E-26                    | AI801412.1            | EST_HUMAN               | t089e01_x1 NCI CGAP_Gas4 Homo sapiens cDNA clone IMAGE:27185416 3' similar to contains Alu repetitive element; contains element MER20 MER20 repetitive element; |
| 11385            | 24001           |                | 2.45              | 2.0E-26                    | AF055088.1            | NT                      | Home sapiens MHC class 1 region   |
| 12108            | 24603           |                | 1.57              | 2.0E-26                    | AB037859.1            | NT                      | Home sapiens mRNA for KIAA1438 protein, partial cds   |
| 133              | 12948           | 25591          | 5.18              | 1.0E-26                    | BE170377.1            | EST_HUMAN               | QV4-HT0588-020300-123-002 HT0588 Homo sapiens cDNA  |
| 2040             | 14774           | 27503          | 1.37              | 1.0E-26                    | AL038938.2            | EST_HUMAN               | DKF7441H1910_1_434 (synonym: Hts3) Homo sapiens cDNA clone DKF7441H1910 5'  |
| 2683             | 15402           |                | 9.04              | 1.0E-26                    | AF261085.1            | NT                      | Home sapiens glyceradethyle-3-phosphate dehydrogenase (GADPH) mRNA, complete cds  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO. | Exon SEQ ID NO. | ORF SEQ ID NO. | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|---|
| 6740             | 19574           |                |                   | 3.05                       | 1.0E-26 BE165980.1    | EST_HUMAN               | MR3-HT0487-150200-113-g01 HT0487 Homo sapiens cDNA  |
| 10808            | 23492           |                |                   | 2.21                       | 1.0E-28 AL038487.1    | EST_HUMAN               | DKFZp566C2148_51 586 (synonym: hifhd2) Homo sapiens cDNA clone DKFZp566C2148_5                                  |
| 12248            | 25395           |                |                   | 3.53                       | 1.0E-28 H55083.1      | EST_HUMAN               | CHR22032 Chromosome 22 exon Homo sapiens cDNA clone C22_45 5  |
| 7494             | 20156           |                |                   | 1.11                       | 9.0E-27 BF371227.1    | EST_HUMAN               | RC8-FN0138-110800-022-A02 FN0138 Homo sapiens cDNA  |
| 9203             | 22082           |                |                   | 4.14                       | 9.0E-27 U93163.1      | NT                      | Homo sapiens MAGE-B2 (MAGE-B2), MAGE-B3 (MAGE-B3), MAGE-B4 (MAGE-B4), and MAGE-B1 (MAGE-B1) genes, complete cds |
| 11876            | 24454           |                |                   | 5.72                       | 9.0E-27 BF445558.1    | EST_HUMAN               | NT  |
| 10               | 12837           | 25450          |                   | 3.83                       | 8.0E-27 A1831462.1    | EST_HUMAN               | W49004_X1 NCI_CGAP_Pr28 Homo sapiens cDNA clone IMAGE-3263364 3' similar to contains OFR_H                      |
| 644              | 13327           |                |                   | 4.33                       | 8.0E-27 AL163227.2    | NT                      | OFR repetitive element;   |
| 1395             | 14142           | 28819          |                   | 59.39                      | 8.0E-27 AW162737.1    | EST_HUMAN               | W49004_X1 NCI_CGAP_Lur19 Homo sapiens cDNA clone IMAGE-2406150 3' similar to contains THR_h2                    |
| 1395             | 14142           | 26820          |                   | 59.39                      | 8.0E-27 AW162737.1    | EST_HUMAN               | NT  |
| 2164             | 14893           | 27629          |                   | 1.37                       | 8.0E-27 AW864776.1    | EST_HUMAN               | Homo sapiens chromosome 21 segment HS21C027   |
| 3180             | 15943           | 28594          |                   | 1.81                       | 8.0E-27 P12238        | SWISSPROT               | au87108_x1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE-2783295 3' similar to gb:k00558            |
| 3343             | 16107           | 28762          |                   | 0.81                       | 8.0E-27 AF181897.1    | EST_HUMAN               | TUBULIN ALPHA-1 CHAIN (HUMAN);  |
| 6608             | 18404           | 31317          |                   | 1.02                       | 8.0E-27 AV732214.1    | EST_HUMAN               | au87108_x1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE-2783295 3' similar to gb:k00558            |
| 6881             | 17857           |                |                   | 2.63                       | 8.0E-27 BE926580.1    | EST_HUMAN               | TUBULIN ALPHA-1 CHAIN (HUMAN);  |
| 6947             | 19429           | 32444          |                   | 2.29                       | 8.0E-27 NB4970.1      | EST_HUMAN               | PW2-SN018-220300-002-007 SN018 Homo sapiens cDNA  |
| 9109             | 21797           | 34981          |                   | 1.51                       | 8.0E-27 AW857579.1    | EST_HUMAN               | ADP-ATP CARRIER PROTEIN, LIVER ISOFORM T2 (ADP/ATP TRANSLOCATOR 3) (ADENINE NUCLEOTIDE TRANSLOCATOR 3) (ANT 3)  |
| 9109             | 21797           | 34982          |                   | 1.51                       | 8.0E-27 AW857579.1    | EST_HUMAN               | NT  |
| 688              | 13444           |                |                   | 1.23                       | 7.0E-27 Z70884.1      | NT                      | (Homo sapiens WRN (WRN) gene, complete cds  |
| 5030             | 17750           |                |                   | 2.25                       | 7.0E-27 AW629172.1    | EST_HUMAN               | AV732214_HTF Homo sapiens cDNA clone HTFBCB08 6'  |
| 8756             | 21448           |                |                   | 1.19                       | 7.0E-27 D88884.1      | NT                      | J1751F Human fetal heart, Lambda ZAP Express Homo sapiens cDNA clone J1751 F similar to REPETITIVE ELEMENT L1   |
| 10880            | 23341           |                |                   | 4.26                       | 7.0E-27 AJ271735.1    | NT                      | CMM-CTD315-091290-063-d07 CT0315 Homo sapiens cDNA  |
| 12484            | 24843           |                |                   | 2.12                       | 7.0E-27 AV7223985.1   | EST_HUMAN               | CMM-CTD315-091290-063-d07 CT0315 Homo sapiens cDNA  |
| 10827            | 23320           | 36658          |                   | 2.76                       | 6.0E-27 M26887.1      | NT                      | Human endogenous retrovirus element HC2   |
| 11804            | 24394           | 37728          |                   | 1.57                       | 6.0E-27 U93163.1      | NT                      | hi51h12_x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE-2878879 3' similar to TR-O76040                    |
|                  |                 |                |                   |                            |                       |                         | 076040 ORF2_FUNCTION UNKNOWN.   |
|                  |                 |                |                   |                            |                       |                         | Human mRNA for KIAA0231 gene, partial cds   |
|                  |                 |                |                   |                            |                       |                         | Homo sapiens Xq pseudodisomic region; segment 1/2   |
|                  |                 |                |                   |                            |                       |                         | AV7223985 HTB Homo sapiens cDNA clone HTBAHE22 5'   |
|                  |                 |                |                   |                            |                       |                         | Human nucleolar protein (B23) mRNA, complete cds  |
|                  |                 |                |                   |                            |                       |                         | Homo sapiens MAGE-B2 (MAGE-B2), MAGE-B3 (MAGE-B3), MAGE-B4 (MAGE-B4), and MAGE-B1 (MAGE-B1) genes, complete cds |

Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO. | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|--|
| 10137            | 22785           | 35986          | 2.82              | 5.0E-27                    | BF686614.1            | EST_HUMAN               | 602121491f1 NIH_MGC_56 Homo sapiens cDNA clone IMAGE:4278527 5'  |
| 10137            | 22785           | 35887          | 2.82              | 5.0E-27                    | BF686614.1            | EST_HUMAN               | 602121491f1 NIH_MGC_56 Homo sapiens cDNA clone IMAGE:4278527 5'  |
| 6845             | 19407           | 32421          | 1.65              | 4.0E-27                    | 8910569               | NT                      | Mus musculus sperm tail associated protein [Step] mRNA   |
| 7840             | 20535           |                | 1.07              | 4.0E-27                    | AL163209.2            | NT                      | Homo sapiens chromosome 21 segment HS21C009  |
| 7983             | 20578           |                | 1.54              | 4.0E-27                    | AF078778.1            | NT                      | Rattus norvegicus putative four repeat ion channel mRNA, complete cds  |
| 8844             | 22286           | 35481          | 0.7               | 4.0E-27                    | AW880858.1            | EST_HUMAN               | Q96-O70033-070300-152-b10 O70033 Homo sapiens cDNA   |
| 11604            | 24203           | 37525          | 1.88              | 4.0E-27                    | X89211.1              | NT                      | H.sapiens DNA for endogenous retroviral like element   |
| 2034             | 14789           | 27489          | 4.61              | 3.0E-27                    | X80858.1              | NT                      | R.ratius RY43 mRNA for a potential ligand-binding protein  |
| 4238             | 16970           | 29604          | 1.06              | 3.0E-27                    | BE071924.1            | EST_HUMAN               | PM0-B70527-080100-001-011 B70527 Homo sapiens cDNA   |
| 5262             | 16068           | 30897          | 6.24              | 3.0E-27                    | AA077705.1            | EST_HUMAN               | 7B44C08 Chromosome 7 Fetal Brain cDNA Library/Homo sapiens cDNA clone 7B44C08  |
| 7688             | 20361           | 33475          | 0.63              | 3.0E-27                    | BE670351.1            | EST_HUMAN               | 7633102.x1 NCL_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3284263 3'  |
| 9205             | 22084           | 35256          | 2.83              | 3.0E-27                    | BF035327.1            | EST_HUMAN               | 601458531f1 NIH_MGC_88 Homo sapiens cDNA clone IMAGE:3862086 5'  |
| 40               | 12988           | 25487          | 14.84             | 2.0E-27                    | AF054187.1            | NT                      | Homo sapiens alpha NAC mRNA, complete cds  |
| 1888             | 14625           |                | 5.12              | 2.0E-27                    | AA565345.1            | EST_HUMAN               | nk01b10.s1 NCL_CGAP_Pt11 Homo sapiens cDNA clone IMAGE:1000689 similar to gb:M17886 60S ACIDIC RIBOSOMAL PROTEIN P1 (HUMAN); |
| 9107             | 15872           |                | 10.39             | 2.0E-27                    | AW628172.1            | EST_HUMAN               | hf51h12x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2975879 3' similar to TR-O76040 076040 ORF2 FUNCTION UNKNOWN.;   |
| 3218             | 15881           | 28832          | 1.98              | 2.0E-27                    | AF111672.2            | NT                      | Homo sapiens Jun dimerization protein gene, partial cds; cfos gene, complete cds; and unknown gene                           |
| 3218             | 15881           | 28833          | 1.98              | 2.0E-27                    | AF111672.2            | NT                      | Homo sapiens Jun dimerization protein gene, partial cds; cfos gene, complete cds; and unknown gene                           |
| 4009             | 16755           | 28385          | 1.36              | 2.0E-27                    | AF0003688.1           | NT                      | Rattus norvegicus voltage-gated sodium channel mRNA, complete cds  |
| 6577             | 16340           | 32253          | 0.61              | 2.0E-27                    | HF2855.1              | EST_HUMAN               | 328601.1T Soares placenta Nb2fIP Homo sapiens cDNA clone IMAGE:150840 5' similar to SP:HMGC_MOUSE_Q02291 HOMEBOX PROTEIN ;   |
| 7889             | 20884           | 33810          | 1.65              | 2.0E-27                    | AI886347.1            | EST_HUMAN               | w428g07.x1 NCL_CGAP_1f1 Homo sapiens cDNA clone IMAGE:2426268 5'   |
| 9169             | 21839           |                | 2.3               | 2.0E-27                    | AA551527.1            | EST_HUMAN               | nh08h05.s1 NCL_CGAP_Thy1 Homo sapiens cDNA clone IMAGE:943737 similar to contams L1.8 L1 repetitive element;                 |
| 9891             | 22342           | 36536          | 0.76              | 2.0E-27                    | X80858.1              | NT                      | R.ratius RY43 mRNA for a potential ligand-binding protein  |
| 9935             | 22583           | 35782          | 1.28              | 2.0E-27                    | M778580.1             | EST_HUMAN               | EST00738 Fetal brain, Strategene (cat#836206) Homo sapiens cDNA clone HFBCF07  |
| 9935             | 22583           | 35783          | 1.28              | 2.0E-27                    | M778580.1             | EST_HUMAN               | EST00738 Fetal brain, Strategene (cat#836206) Homo sapiens cDNA clone HFBCF07  |
| 10875            | 23555           | 36802          | 4.11              | 2.0E-27                    | AU121685.1            | EST_HUMAN               | AU121685 MAMMA1 Homo sapiens cDNA clone MAMMA1000748 5'  |
| 11469            | 14625           |                | 3.31              | 2.0E-27                    | AA565345.1            | EST_HUMAN               | nk01b10.s1 NCL_CGAP_Pt11 Homo sapiens cDNA clone IMAGE:1000689 similar to gb:M17886 60S ACIDIC RIBOSOMAL PROTEIN P1 (HUMAN); |
| 426              | 13212           |                | 1.51              | 1.0E-27                    | AL163246.2            | NT                      | Homo sapiens chromosome 21 segment HS21C046  |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|---|
| 878              | 13741           | 26404          | 1.34              | 1.0E-27                          | AB026898.1            | NT                      | Homo sapiens DNA, DLEC1 to ORC1L4 gene region, section 1/2 (DLEC1, ORC1L3, ORC1L4 genes, complete cds)  |
| 4061             | 16808           |                | 0.88              | 1.0E-27                          | BE350127.1            | EST_HUMAN               | h02g01_x1 NCI_CGAP_Kid13 Homo sapiens cDNA clone IMAGE:3146256 3' similar to contains MER29 ls3 MER29 repetitive element;   |
| 6349             | 19217           | 32215          | 6.28              | 1.0E-27                          | 60058555              | NT                      | Homo sapiens Retina-defined POU-domain factor-1 (RPF-1), mRNA   |
| 67771            | 19515           | 32542          | 1.86              | 1.0E-27                          | F30158.1              | EST_HUMAN               | HSPD20461 HM3 Homo sapiens cDNA clone s40000385C10  |
| 67771            | 19515           | 32543          | 1.86              | 1.0E-27                          | F30158.1              | EST_HUMAN               | HSPD20461 HM3 Homo sapiens cDNA clone s40000385C10  |
| 8508             | 21200           | 34348          | 0.88              | 1.0E-27                          | AB007923.1            | NT                      | Homo sapiens mRNA for KIAA0454 protein, partial cds   |
| 8884             | 21575           |                | 2.28              | 1.0E-27                          | BE079780.1            | EST_HUMAN               | RC8-BT0627-140200-01-E08 BT0627 Homo sapiens cDNA   |
| 88222            | 22275           | 35463          | 2.55              | 1.0E-27                          | D87446.1              | NT                      | Human mRNA for KIAA0260 gene, partial cds   |
| 11704            | 24289           | 37625          | 3.61              | 1.0E-27                          | AF111083.1            | NT                      | Bos taurus latrophilin 3 splice variant bbah mRNA, complete cds   |
| 137              | 12851           |                | 2.84              | 9.0E-28                          | BE348398.1            | EST_HUMAN               | hw17c11_x1 NCI_CGAP_Li24 Homo sapiens cDNA clone IMAGE:31483188 3' similar to TR:Q07314 Q07314  |
| 303              | 13107           | 25747          | 3.31              | 9.0E-28                          | AU126280.1            | EST_HUMAN               | SECRETED NEUREXIN III-ALPHA-C PRECURSOR. [3] TR:Q07320 TR:Q07313 ;  |
| 10289            | 22837           | 38150          | 0.63              | 9.0E-28                          | AA174078.1            | EST_HUMAN               | AU126280 NT2RP1 Homo sapiens cDNA clone N12RP1000443.6  |
| 11951            | 24504           |                | 4.85              | 9.0E-28                          | BF377785.1            | EST_HUMAN               | 2p18q12.51 Strategic fetal retina 887202 Homo sapiens cDNA clone IMAGE:6039862.3'   |
| 12288            | 25245           |                | 2.46              | 8.0E-28                          | AW157571.1            | EST_HUMAN               | CM2-TN0140-070900-372-9101 TN0140 Homo sapiens cDNA   |
| 1158             | 13913           | 28578          | 7.89              | 7.0E-28                          | AU142750.1            | EST_HUMAN               | alu83h08.x1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:27828111 3' similar to TR:0603020 O603020 KIAA0555 PROTEIN. ;contains element MER22 repetitive element; |
| 11142            | 23809           | 37089          | 3.36              | 7.0E-28                          | 114177868             | NT                      | AU142750 Y78AA11 Homo sapiens cDNA clone Y78AA1000824.6'  |
| 11810            | 24474           |                | 2.78              | 7.0E-28                          | AV735348.1            | EST_HUMAN               | Homo sapiens gamma-glutamyltransferase-like activity 1 (GGTL1), mRNA  |
| 88117            | 21508           |                | 0.87              | 6.0E-28                          | AF016052.1            | NT                      | Homo sapiens zinc finger protein ZNF191 (ZNF191) gene, complete cds   |
| 12526            | 24873           |                | 2.35              | 6.0E-28                          | AA504582.1            | EST_HUMAN               | ss601e03.11 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:8253340 5' similar to contains Alu repetitive element;contains element PTR5 repetitive element;                       |
| 310              | 13114           |                | 4.19              | 5.0E-28                          | AB221003.1            | EST_HUMAN               | w018c07.x1 NCI_CGAP_Pan1 Homo sapiens cDNA clone IMAGE:2455682 3' similar to contains THR.b1 THR repetitive element;  |
| 3900             | 16738           | 29372          | 1.44              | 5.0E-28                          | R78762.1              | EST_HUMAN               | y88f10.11 Scores placenta Nb2HP Homo sapiens cDNA clone IMAGE:148443.5'   |
| 2631             | 15343           | 28087          | 1.68              | 4.0E-28                          | AW195036.1            | EST_HUMAN               | x083c09.x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:2695504 3' similar to SW:3G85_HUMAN Q08379 GOLGIN-65 .  |
| 2978             | 15742           | 28389          | 0.78              | 4.0E-28                          | 4505316               | NT                      | Homo sapiens myosin phosphatase, target subunit 1 (MYP71), mRNA   |
| 3106             | 15871           | 28511          | 2.52              | 4.0E-28                          | BE409100.1            | EST_HUMAN               | 601300703F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:36335305.6'  |
| 7230             | 18915           | 32988          | 1.93              | 4.0E-28                          | AI108041.1            | EST_HUMAN               | qf88f10.x1 Scores testis_NHT Homo sapiens cDNA clone IMAGE:1755019 3' similar to gb:NM19503 LINE-1 REVERSE TRANSCRIPTASE HOMOLOG (HUMAN);                                     |

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 Table 4  
 Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 10774            | 23457       |                | 3.08              | 4.0E-28                              | AF026308.1            | NT                      | Homo sapiens chromosome 9 duplication of the T cell receptor beta locus and trypsinogen gene families   |
| 10928            | 23608       |                | 17.24             | 4.0E-28                              | AB038241.1            | NT                      | Felis catus GAPDH mRNA for glyceraldehyde-3-phosphate dehydrogenase, complete cds   |
| 10850            | 18816       | 32888          | 4.75              | 4.0E-28                              | AI188941.1            | EST_HUMAN               | qf88f10.x1 Soares testis_NH-T Homo sapiens cDNA clone IMAGE:1755019 3' similar to gb:AA19503 LINE-1 REVERSE TRANSCRIPTASE HOMOLOG (HUMAN);            |
| 12312            | 24734       |                | 1.84              | 4.0E-28                              | AW854244.1            | EST_HUMAN               | RC3-CT0254-240400-210-f12 CT0254 Homo sapiens cDNA  |
| 1260             | 14009       |                | 2.88              | 3.0E-28                              | AF1155382.1           | NT                      | Homo sapiens metalloprotease-like, disintegrin-like, cysteine-rich protein 2 epsilon (ADAM22) mRNA, complete cds                                      |
| 5051             | 17770       |                | 1.05              | 3.0E-28                              | AF009880.1            | NT                      | Homo sapiens T cell receptor beta locus, TCRBV7SS3A2 to TCRBV12S2 region  |
| 8726             | 21418       | 34562          | 1.89              | 3.0E-28                              | BP354030.1            | EST_HUMAN               | MR3-HT0713-280500-013-f08 HT0713 Homo sapiens cDNA  |
| 10853            | 23533       | 36778          | 2.09              | 3.0E-28                              | U53598.1              | NT                      | Homo sapiens MHC class 1 region   |
| 12344            | 24751       |                | 3.62              | 3.0E-28                              | AI831891.1            | EST_HUMAN               | wf88f7_x1 NCI_CGAP_Lym12 Homo sapiens cDNA clone IMAGE:2410885 3' similar to contains Alu repetitive element;contains element HGR repetitive element; |
| 87               | 12813       | 28561          | 10.8              | 2.0E-28                              | BE0982167.1           | EST_HUMAN               | RC1-BT0254-220300-010-c05 BT0254 Homo sapiens cDNA  |
| 1023             | 13783       | 28444          | 0.86              | 2.0E-28                              | 4501812               | NT                      | Homo sapiens a disintegrin and metalloprotease domain 23 (ADAM23) mRNA  |
| 1142             | 13887       | 28558          | 16.03             | 2.0E-28                              | Y11107.3              | NT                      | Homo sapiens TTGB4 gene for integrin beta 4 subunit, exons 3-41   |
| 2481             | 15198       | 27839          | 2.1               | 2.0E-28                              | AI348634.1            | EST_HUMAN               | qp35006.x1 NCI_CGAP_Lu5 Homo sapiens cDNA clone IMAGE:1810483 3' similar to contains L1.b2 L1 repetitive element;                                     |
| 6215             | 18889       | 31968          | 1.33              | 2.0E-28                              | BF224402.1            | EST_HUMAN               | hr7ec03.x1 NCI_CGAP_Qd11 Homo sapiens cDNA clone IMAGE:3134404 3' similar to contains LOR1.b1 LOR1 repetitive element;                                |
| 6238             | 18012       |                | 5.07              | 2.0E-28                              | BF212905.1            | EST_HUMAN               | 601814188f1 NIH_MGC_54 Homo sapiens cDNA clone IMAGE:4048761 5'   |
| 7843             | 20638       | 33768          | 0.71              | 2.0E-28                              | AF005273.1            | NT                      | Sus scrofa domesticus submaxillary spumucin mRNA, complete cds  |
| 9484             | 22137       |                | 5.54              | 2.0E-28                              | AW972305.1            | EST_HUMAN               | EST1384594 MAGE resequences, MAGL Homo sapiens cDNA   |
| 11614            | 24212       | 37538          | 1.84              | 2.0E-28                              | AF224689.1            | NT                      | Homo sapiens mannosidase, beta A, lysosomal (MANBA) gene, and ubiquitin-conjugating enzyme E2D 3 (UBE2D3) genes, complete cds                         |
| 12322            | 24741       |                | 2.22              | 2.0E-28                              | H063378.1             | EST_HUMAN               | Y78cd98.r1 Soares infant brain 1NIB Homo sapiens cDNA clone IMAGE:44300 5'  |
| 1461             | 14208       | 26895          | 2.84              | 1.0E-28                              | D38044.1              | NT                      | Human gene for Ah-receptor, exon 7-9  |
| 2217             | 14945       | 27685          | 2.37              | 1.0E-28                              | BF333226.1            | EST_HUMAN               | QV1-BT0821-120800-360-b03 BT0821 Homo sapiens cDNA  |
| 7759             | 20455       |                | 3.2               | 1.0E-28                              | 11428885              | NT                      | Homo sapiens similar to ribosomal protein L12 (H. sapiens) [LOC65091], mRNA   |
| 7817             | 20612       |                | 3.3               | 1.0E-28                              | 89227793              | NT                      | Homo sapiens hypothetical protein FLJ10968 (FLJ10968), mRNA   |
| 9178             | 21848       | 35014          | 4.84              | 1.0E-28                              | AA308744.1            | EST_HUMAN               | EST178615 HCC cell line (metastasis to liver in mouse) II Homo sapiens cDNA 5' end similar to similar to retroviral LTR                               |
| 9776             | 22427       | 356333         | 8.73              | 1.0E-28                              | 4768431               | NT                      | Homo sapiens gamma-glutamyltransferase-like activity 1 (GGTLA1), mRNA   |
| 9776             | 22427       | 356341         | 8.73              | 1.0E-28                              | 4758431               | NT                      | Homo sapiens gamma-glutamyltransferase-like activity 1 (GGTLA1), mRNA   |

Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 10422            | 23058           |                | 0.63              | 1.0E-28                              | AU148386.1            | EST_HUMAN               | AU148386 NT2RM4 Homo sapiens cDNA clone NT2RM4002148 3'  |
| 11915            | 24478           |                | 7.79              | 1.0E-28                              | AA054182.1            | EST_HUMAN               | Zf51c01.1 Soares retina N2b4HR Homo sapiens cDNA clone IMAGE:380448 5'   |
| 12651            | 25143           |                | 1.88              | 1.0E-28                              | AL163247.2            | NT                      | Homo sapiens chromosome 21 segment HS21C047  |
| 12749            | 25348           | 30803          | 3.18              | 9.0E-29                              | AW663987.1            | EST_HUMAN               | h76908.x1 Soares NFL_T GBC_S1 Homo sapiens cDNA clone IMAGE:2978266 3'   |
| 12838            | 24808           |                | 3.32              | 8.0E-29                              | Q000130               | SWISSPROT               | HYPOTHETICAL PROTEIN   |
| 15858            | 14344           | 27034          | 1.37              | 7.0E-29                              | AW665447.1            | EST_HUMAN               | EST378521 MAGE sequences, MAGI Homo sapiens cDNA   |
| 12794            | 26045           |                | 7.13              | 7.0E-29                              | AJ132352.1            | NT                      | Rattus norvegicus mRNA for 45 kDa secretory protein, partial   |
| 681              | 13361           | 25989          | 16.88             | 6.0E-29                              | AI098748.1            | EST_HUMAN               | wp69201.x1 NCI_CGAP_Bm25 Homo sapiens cDNA clone IMAGE:2466985 3' similar to TR-O15475   |
| 12201            | 24689           |                | 8.09              | 6.0E-29                              | BE940436.1            | EST_HUMAN               | O15475 UNNAMED HERV-H PROTEIN :contains LTR7.b1 LTR7 repetitive element ;  |
| 12298            | 24717           |                | 1.72              | 6.0E-29                              | BF568097.1            | EST_HUMAN               | RC3-JTU062-210800-021-06 UT0082 Homo sapiens cDNA  |
| 8630             | 21322           |                | 5.36              | 5.0E-29                              | AW887541.1            | EST_HUMAN               | 602184092F1 NIH_MGC_42 Homo sapiens cDNA clone IMAGE:4300079 5'  |
| 3226             | 15698           |                | 1.84              | 4.0E-29                              | AJ7522367.1           | EST_HUMAN               | cn156202.x1 Normal Human Trabecular Bone Cells Homo sapiens cDNA clone NHTBC_cn15c02 random  |
| 8918             | 18704           |                | 7.91              | 4.0E-29                              | BE184900.1            | EST_HUMAN               | QV1+HT0471-280300-121-005 HT0471 Homo sapiens cDNA   |
| 7978             | 20874           | 33797          | 0.55              | 4.0E-29                              | AI678101.1            | EST_HUMAN               | wd35g06.x1 Soares NFL_T GBC_S1 Homo sapiens cDNA clone IMAGE:2330170 3' similar to contains MER29.12 MER29 repetitive element;                                 |
| 7979             | 20874           | 33798          | 0.55              | 4.0E-29                              | AI678101.1            | EST_HUMAN               | wd35g06.x1 Soares NFL_T GBC_S1 Homo sapiens cDNA clone IMAGE:2330170 3' similar to contains MER29.12 MER29 repetitive element;                                 |
| 8844             | 21326           | 34480          | 6.21              | 4.0E-29                              | JO4988.1              | NT                      | Human 90 kD heat shock protein gene, complete cds  |
| 4281             | 17118           | 29751          | 1.4               | 3.0E-29                              | AB042287.1            | NT                      | Homo sapiens PTS gene for 6-pyruvyltetrahydropterin synthase, complete cds   |
| 4684             | 17418           | 30054          | 1.07              | 3.0E-29                              | BF333228.1            | EST_HUMAN               | QV1-BT0821-120800-360-bc3 BT0821 Homo sapiens cDNA   |
| 6841             | 18629           | 31564          | 1.18              | 3.0E-29                              | BE314018.1            | EST_HUMAN               | 601152657F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:3508527 5'  |
| 8832             | 21324           | 34465          | 2.87              | 3.0E-29                              | D38044.1              | NT                      | Human gene for Ah-receptor, exon 7-9   |
| 9200             | 21868           | 36034          | 1.69              | 3.0E-29                              | AW3003317.1           | EST_HUMAN               | xV17f03.x1 Soares_NFL_T GBC_S1 Homo sapiens cDNA clone IMAGE:2813405 3' similar to contains ALu repetitive element contains MER19.12 MER10 repetitive element; |
| 9431             | 22109           |                | 1.87              | 3.0E-29                              | AL163246.2            | NT                      | Homo sapiens chromosome 21 segment HS21C048  |
| 9859             | 22509           |                | 0.61              | 3.0E-29                              | BE350127.1            | EST_HUMAN               | hd09g01.x1 NCI_CGAP_Jkf13 Homo sapiens cDNA clone IMAGE:3146256 3' similar to contains MER29.13  |
| 11235            | 23898           | 37185          | 1.47              | 3.0E-29                              | AA403053.1            | EST_HUMAN               | Zf62001.1 Soares_NH-T Homo sapiens cDNA clone IMAGE:726888 5' similar to TR-G1336769   |
| 12102            | 24600           |                | 1.53              | 3.0E-29                              | D63882.1              | NT                      | G1335769 GAC-POL POLYPROTEIN ;   |
| 12799            | 25376           |                | 7.53              | 3.0E-29                              | AA016177.1            | EST_HUMAN               | Human Hs1LM15 mRNA for Hs1LM15, complete cds   |
| 480              | 13265           | 26900          | 1.72              | 2.0E-29                              | AF084889.1            | NT                      | zB32e09.s1 Soares retina N2b4HR Homo sapiens cDNA clone IMAGE:360712 5'  |

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Table 4  
Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|--|
| 480              | 13265           | 25801          | 1.72              | 2.0E-29                    | AF084868.1            | NT                      | Homo sapiens envelope protein RIC-8 (env) gene, complete cds<br>wif65d10_x1 NCI_CGAP_Ut1 Homo sapiens cDNA clone IMAGE:2492563 3' similar to TR:O15546 O15546      |
| 1523             | 14270           | 28955          | 6.62              | 2.0E-29                    | AI983604.1            | EST_HUMAN               | HERV-E ENVELOPE GLYCOPROTEIN;  |
| 1523             | 14270           | 28956          | 6.62              | 2.0E-29                    | AI983604.1            | EST_HUMAN               | wif65d10_x1 NCI_CGAP_Ut1 Homo sapiens cDNA clone IMAGE:2492563 3' similar to TR:O15546 O15546  |
| 4248             | 16897           | 28610          | 1.68              | 2.0E-29                    | AL1632682             | NT                      | HERV-E ENVELOPE GLYCOPROTEIN;  |
| 5735             | 18527           | 31449          | 0.99              | 2.0E-29                    | AI082459.1            | EST_HUMAN               | Homo sapiens chromosome 21 segment HS21/C068<br>cs71604_x1 NCI_CGAP_GC22 Homo sapiens cDNA clone IMAGE:1610814 3' similar to contains L1.12.L1 repetitive element; |
| 6087             | 18886           | 31830          | 1.48              | 2.0E-29                    | AI806418.1            | EST_HUMAN               | wf27g07_x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2358880 3' similar to contains element MER6 repetitive element;                                       |
| 7459             | 18885           | 31830          | 1.36              | 2.0E-29                    | AI806418.1            | EST_HUMAN               | wf27g07_x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2358880 3' similar to contains element MER6 repetitive element;                                       |
| 7876             | 20571           | 33698          | 1.18              | 2.0E-29                    | BE867157.1            | EST_HUMAN               | 60144/2206/F1 NIH_MGC_85 Homo sapiens cDNA clone IMAGE:3846848 5'  |
| 8477             | 21169           | 34313          | 0.63              | 2.0E-29                    | 10587821              | NT                      | Homo sapiens DNA-binding protein (LOC56242), mRNA  |
| 8477             | 21169           | 34314          | 0.63              | 2.0E-29                    | 10587821              | NT                      | Homo sapiens DNA-binding protein (LOC56242), mRNA  |
| 9408             | 22070           | 35241          | 3.61              | 2.0E-29                    | AL1632482             | NT                      | Homo sapiens chromosome 21 segment HS21/C048   |
| 9408             | 22070           | 35242          | 3.61              | 2.0E-29                    | AL1632482             | NT                      | Homo sapiens chromosome 21 segment HS21/C048   |
| 10139            | 22787           | 35989          | 3.61              | 2.0E-29                    | AL1632482             | NT                      | Homo sapiens chromosome 21 segment HS21/C048   |
| 10139            | 22787           | 36000          | 3.61              | 2.0E-29                    | AL1632482             | NT                      | Homo sapiens chromosome 21 segment HS21/C048   |
| 10877            | 23657           | 36904          | 1.31              | 2.0E-29                    | BF025947.1            | EST_HUMAN               | 60165983.4/F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:3862833 5'  |
| 11459            | 24063           |                | 2.04              | 2.0E-29                    | 114257108             | NT                      | Homo sapiens splicing factor similar to dnaj (SPF31), mRNA   |
| 11459            | 24100           |                | 1.73              | 2.0E-29                    | AW880701.1            | EST_HUMAN               | Q00-O70x52-080300-155-d01 O10032 Homo sapiens cDNA   |
| 8691             | 21383           | 34527          | 7.37              | 1.0E-29                    | AW983880.1            | EST_HUMAN               | RC1-HN003-220300-021-b04 HN003 Homo sapiens cDNA   |
| 10518            | 23164           | 36391          | 0.85              | 1.0E-29                    | X601658.1             | NT                      | Rattus RY43 mRNA for a potential ligand-binding protein  |
| 6487             | 19254           | 32255          | 2.97              | 9.0E-30                    | AA761215.1            | EST_HUMAN               | n220d7_s1 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:1288332 3' similar to contains MER4.b1 MER4 repetitive element;  |
| 11892            | 24531           |                | 1.73              | 9.0E-30                    | 11422745              | NT                      | Homo sapiens zinkforn regulated transporter-like (ZRTL), mRNA  |
| 6227             | 18001           |                | 8.94              | 8.0E-30                    | F08688.1              | EST_HUMAN               | HSC28F051 normalized infant brain cDNA Homo sapiens cDNA clone c-23f05   |
| 8188             | 20852           | 33984          | 3.72              | 8.0E-30                    | AA383873.1            | EST_HUMAN               | ES19/317 Thymus 1 Homo sapiens cDNA 5' end similar to EST containing O family repeat   |
| 8583             | 21275           | 34412          | 3.1               | 8.0E-30                    | AI557072.1            | EST_HUMAN               | PT2.1_13_B11.1 tumor2 Homo sapiens cDNA 3'   |
| 1505             | 14251           |                | 1.03              | 7.0E-30                    | BE091133.1            | EST_HUMAN               | PM4-B10724-150400-004-d11 B10724 Homo sapiens cDNA   |
| 1768             | 14508           | 27209          | 1.73              | 6.0E-30                    | D25303.1              | NT                      | Human mRNA for integrin alpha subunit, complete cds  |
| 3185             | 15948           | 28598          | 2.3               | 6.0E-30                    | BE008028.1            | EST_HUMAN               | Q00-BN0147-280400-214-f12 BN0147 Homo sapiens cDNA   |
| 10437            | 23083           | 36310          | 0.48              | 6.0E-30                    | AF177227.1            | NT                      | Homo sapiens CTCL tumor antigen see20-10 mRNA, partial cds   |

Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID No. | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 12769            | 17897           |                | 3.38              | 6.0E-30                              | X61755.1              | NT                      | Human lambda-immunoglobulin constant region complex (germline)   |
| 3894             | 16742           | 28376          | 26.19             | 5.0E-30                              | AJ398992.1            | EST_HUMAN               | Igs2p03_x1 NCI_CGAP_CLI Homo sapiens cDNA clone IMAGE:2116276 3' similar to contains Alu repetitive element                              |
| 61589            | 26176           |                | 5.44              | 6.0E-30                              | U87931.1              | NT                      | Human selenite hydratase (ACO2) gene, exon 7   |
| 10002            | 23485           |                | 1.95              | 5.0E-30                              | AL163278.2            | NT                      | Homo sapiens chromosome 21 segment HS21_0078   |
| 11103            | 23773           | 37047          | 2.47              | 5.0E-30                              | AL163210.2            | NT                      | Homo sapiens chromosome 21 segment HS21_0010   |
| 11103            | 23773           | 37048          | 2.47              | 6.0E-30                              | AL163210.2            | NT                      | Homo sapiens chromosome 21 segment HS21_0010   |
| 2139             | 14888           | 27589          | 1.72              | 4.0E-30                              | AW887471.1            | EST_HUMAN               | QV3-DT0043-080200-080-c08 DT0043 Homo sapiens cDNA   |
| 2139             | 14889           | 27600          | 1.72              | 4.0E-30                              | AW887471.1            | EST_HUMAN               | QV3-DT0043-080200-080-c08 DT0043 Homo sapiens cDNA   |
| 6758             | 17925           | 30560          | 0.83              | 4.0E-30                              | P11369                | SWISSPROT               | RETRORVIRUS-RELATED POLYPOXYPROTEIN [CONTAINS: REVERSE TRANSCRIPTASE ; ENDONUCLEASE]   |
| 8803             | 21495           | 34641          | 2.82              | 4.0E-30                              | AW812488.1            | EST_HUMAN               | CMI-ST0181-091199-035-f08 ST0181 Homo sapiens cDNA   |
| 1129             | 13685           |                | 2.11              | 3.0E-30                              | AJ388551.1            | EST_HUMAN               | qp82c05_x1 Soares_total_fetus_Nb2Hf8_9W Homo sapiens cDNA clone IMAGE:1638820 3' similar to contains MER29_b2 MER29 repetitive element ; |
| 3740             | 18493           | 29128          | 0.93              | 3.0E-30                              | AF128893.1            | NT                      | Homo sapiens telomerase reverse transcriptase (TERT) gene, exons 1-6   |
| 7852             | 20547           |                | 0.58              | 3.0E-30                              | AF078779.1            | NT                      | Rattus norvegicus putative four repeat ton channel mRNA, complete cds  |
| 88365            | 21078           |                | 0.48              | 3.0E-30                              | AF078778.1            | NT                      | Rattus norvegicus putative four repeat ton channel mRNA, complete cds  |
| 10333            | 22880           | 36200          | 1.7               | 3.0E-30                              | BE350127.1            | EST_HUMAN               | hi09g1_x1 NCI_CGAP_Kid13 Homo sapiens cDNA clone IMAGE:31146256 3' similar to contains MER29_b3  |
| 10465            | 23111           | 36342          | 0.53              | 3.0E-30                              | AB032689.1            | NT                      | MER29 repetitive element ;   |
| 10465            | 23111           | 36343          | 0.53              | 3.0E-30                              | AB032689.1            | NT                      | Homo sapiens mRNA for KIAA1143 protein, partial cds  |
| 11168            | 23835           | 37116          | 2.48              | 3.0E-30                              | P34056                | SWISSPROT               | TRANSCRIPTION FACTOR AP-2  |
| 680              | 13438           | 28077          | 0.82              | 2.0E-30                              | AW857315.1            | EST_HUMAN               | CM0-CT0307-310100-158-h03 CT0307 Homo sapiens cDNA   |
| 1062             | 13820           |                | 3.11              | 2.0E-30                              | F08688.1              | EST_HUMAN               | HSC23F051 normalized infant brain cDNA Homo sapiens cDNA clone o-23105   |
| 1482             | 14209           | 26898          | 5.31              | 2.0E-30                              | BE17587.1             | EST_HUMAN               | RC3-HT0882-110400-013-H08 HT0882 Homo sapiens cDNA   |
| 2720             | 18427           | 28165          | 8                 | 2.0E-30                              | BE76523.2             | EST_HUMAN               | II.2-NT0101-280700-016-E04 NT0101 Homo sapiens cDNA  |
| 2820             | 15688           | 28331          | 6.39              | 2.0E-30                              | AF114156.1            | NT                      | Homo sapiens Y-linked zinc finger protein (ZFY) gene, complete cds   |
| 3769             | 16521           | 28160          | 2.26              | 2.0E-30                              | AW206551.1            | EST_HUMAN               | U1-H-B11-af-o-12-0-U.1 NT1 NC1 CGAP_Sub3 Homo sapiens cDNA clone IMAGE:2722558 3'  |
| 4727             | 17459           | 30095          | 1.51              | 2.0E-30                              | BE288945.1            | EST_HUMAN               | 601118860F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:3028438 5'  |
| 4727             | 17459           | 30096          | 1.51              | 2.0E-30                              | BE288945.1            | EST_HUMAN               | 601118860F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:3028438 5'  |
| 6880             | 19420           | 32435          | 0.55              | 2.0E-30                              | BF306331.1            | EST_HUMAN               | 601893208F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:4138983 5'  |
| 8375             | 21068           | 34208          | 0.45              | 2.0E-30                              | AA019103.1            | EST_HUMAN               | 2858c10,r1 Soares retina N2b4H R Homo sapiens cDNA clone IMAGE:383188 5'   |
| 8435             | 21128           | 34265          | 4.68              | 2.0E-30                              | C18939.1              | EST_HUMAN               | C18839 Human placenta cDNA (TF-jjivwara) Homo sapiens cDNA clone GEN-570C01 5'   |

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 Table 4  
 Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|---|
| 88533            | 21225           | 34986          | 3.61              | 2.0E-30                    | BE670817.1            | EST_HUMAN               | 7e87c12.x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3284682 3' similar to SW:DHS4_HUMAN P31040 SUCCINATE DEHYDROGENASE [UBIQUINONE] FLAVOPROTEIN SUBUNIT PRECURSOR;  |
| 88533            | 21225           | 34987          | 3.61              | 2.0E-30                    | BE670817.1            | EST_HUMAN               | 7e87c12.x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3284682 3' similar to SW:DHS4_HUMAN P31040 SUCCINATE DEHYDROGENASE [UBIQUINONE] FLAVOPROTEIN SUBUNIT PRECURSOR;  |
| 88537            | 22647           | 35741          | 3.62              | 2.0E-30                    | AW97168.1             | EST_HUMAN               | EST383657 IMAGE sequences, MAGL Homo sapiens cDNA Has3406.x1 NCI_CGAP_Kid12 Homo sapiens cDNA clone IMAGE:2875489 3' similar to contains TIR_Es TIR repetitive element; |
| 88632            | 22630           | 35839          | 7.37              | 2.0E-30                    | AW470791.1            | EST_HUMAN               | Ct18939 Human placenta cDNA (Tfujlware) Homo sapiens cDNA clone GEN:570C01 5'   |
| 280              | 13087           | 25720          | 16.33             | 1.0E-30                    | Ct18939.1             | EST_HUMAN               | Id30504.x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2910891 3' similar to contains MER1.3 MER1 MER1 repetitive element;  |
| 525              | 13309           | 25942          | 2.34              | 1.0E-30                    | AW468897.1            | EST_HUMAN               | Homo sapiens chromosome 21 segment HS21(C003 ac773048.s1 Stratagene lung (#33721)) Homo sapiens cDNA clone IMAGE:368590 3'  |
| 689              | 13474           | 26122          | 2.62              | 1.0E-30                    | AL163203.2            | NT                      | AA684377.1 EST_HUMAN  |
| 2209             | 14937           | 27676          | 7.16              | 1.0E-30                    | AA684377.1            | EST_HUMAN               | 601202256017 NCI_CGAP_Bm67 Homo sapiens cDNA clone IMAGE:4157991 5'   |
| 24644            | 15182           | 27821          | 2.01              | 1.0E-30                    | BF547722.1            | EST_HUMAN               | EST1863688 HCC cell line (metastasis to liver in mouse) II Homo sapiens cDNA 5' end   |
| 3050             | 15816           | 28461          | 0.94              | 1.0E-30                    | AA315045.1            | EST_HUMAN               | 601180093217 NIH_MGC_18 Homo sapiens cDNA clone IMAGE:4040694 5'  |
| 7624             | 20280           | 33399          | 2.46              | 1.0E-30                    | BF1832320.1           | EST_HUMAN               | CHR220532 Chromosome 22 exon Homo sapiens cDNA clone C22_728 5'   |
| 12581            | 25288           |                | 6.95              | 1.0E-30                    | HM55593.1             | EST_HUMAN               | yc655068.r1 Stratagene liver (#3317224) Homo sapiens cDNA clone IMAGE:855570 5'   |
| 3748             | 16501           | 28135          | 0.81              | 9.0E-31                    | T73025.1              | EST_HUMAN               | yc655068.r1 Stratagene liver (#3317224) Homo sapiens cDNA clone IMAGE:855570 5'   |
| 3748             | 16601           | 28136          | 0.81              | 9.0E-31                    | T73026.1              | EST_HUMAN               | yc655068.r1 Stratagene liver (#3317224) Homo sapiens cDNA clone IMAGE:855570 5'   |
| 8223             | 20917           | 34053          | 0.81              | 9.0E-31                    | R18214.1              | EST_HUMAN               | yf9808.11 Soares Infant brain NIB Homo sapiens cDNA clone IMAGE:305665 5' similar to gb:X12953 RAS-RELATED PROTEIN RAB-2 (HUMAN);                                       |
| 8223             | 20917           | 34054          | 0.81              | 9.0E-31                    | R18214.1              | EST_HUMAN               | yf9808.11 Soares Infant brain NIB Homo sapiens cDNA clone IMAGE:305665 5' similar to gb:X12953 RAS-RELATED PROTEIN RAB-2 (HUMAN);                                       |
| 88522            | 21214           |                | 1.63              | 9.0E-31                    | T38283.1              | EST_HUMAN               | HSC05F032 normalized infant brain cDNA Homo sapiens cDNA clone c-06103 3'   |
| 88524            | 21216           | 34358          | 0.48              | 9.0E-31                    | AF078779.1            | NT                      | Rattus norvegicus putative four repeat ton channel mRNA, complete cds   |
| 1054             | 13613           | 28473          | 2.41              | 8.0E-31                    | 88223389              | NT                      | Homo sapiens hypothetical protein FLJ20420 (FLJ20420), mRNA   |
| 2414             | 15135           |                | 4.6               | 8.0E-31                    | AL163208.2            | NT                      | Homo sapiens chromosome 21 segment HS21(C008  |
| 4861             | 17580           | 30213          | 1.43              | 8.0E-31                    | P23275                | SWISSPROT               | OLFACTOORY RECEPTOR 15 (OR3)  |
| 4861             | 17590           | 30214          | 1.43              | 8.0E-31                    | P23275                | SWISSPROT               | OLFACTOORY RECEPTOR 15 (OR3)  |
| 2674             | 15383           | 28123          | 3.29              | 7.0E-31                    | BE328517.1            | EST_HUMAN               | lw05at11.x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3182012 3'  |
| 2674             | 15383           | 28124          | 3.29              | 7.0E-31                    | BE328517.1            | EST_HUMAN               | lw05at11.x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3182012 3'  |
| 8300             | 20894           | 34130          | 0.86              | 7.0E-31                    | AF208541.1            | NT                      | Homo sapiens V1-vasculair vasoressin receptor AVPR1A gene, promoter region and partial cds  |
| 8300             | 20894           | 34131          | 0.86              | 7.0E-31                    | AF208541.1            | NT                      | Homo sapiens V1-vasculair vasoressin receptor AVPR1A gene, promoter region and partial cds  |

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 Table 4  
 Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--------------------|
| 8768 21836       |                 |                | 0.84              | 7.0E-31 BE40861.1                    | EST_HUMAN             | 601304125F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3638310 5   |                    |
| 12434 24805      |                 | 31044          | 2.26              | 7.0E-31 X51755.1                     | NT                    | Human lambda-immunoglobulin constant region complex (germline)   |                    |
|                  |                 |                |                   |                                      |                       | Homo sapiens calcium channel alpha1E subunit (CACNA1E) gene, exons 7-49, and partial cds, alternatively spliced  |                    |
| 3687 16420       |                 |                | 2.88              | 6.0E-31 AF222391.1                   | NT                    | Homo sapiens MHC class 1 region  |                    |
| 8053 20747       |                 |                | 4.37              | 6.0E-31 AF055068.1                   | NT                    | h09g01_x1 NCI_CGAP_Kid13 Homo sapiens cDNA clone IMAGE:3146256 3' similar to contains MER29 DS MER29 repetitive element;   |                    |
| 8229 20923       |                 | 34082          | 0.88              | 6.0E-31 BE350127.1                   | EST_HUMAN             | 601433087F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3918574 5   |                    |
| 12169 25185      |                 |                | 1.98              | 6.0E-31 BE894488.1                   | EST_HUMAN             | Homo sapiens type I DNA topoisomerase gene, exon 8   |                    |
| 187 13000        |                 | 25840          | 3.68              | 5.0E-31 M80694.1                     | NT                    | Homo sapiens type I DNA topoisomerase gene, exon 8   |                    |
| 187 13000        |                 | 25841          | 3.58              | 6.0E-31 M80694.1                     | NT                    |  |                    |
| 8344 21037       |                 |                | 0.73              | 5.0E-31 BF056640.1                   | EST_HUMAN             | 7K06f04_x1 NCI_CGAP_G08 Homo sapiens cDNA clone IMAGE:3443470 3' similar to TR-Q13537 Q13537 SIMILAR TO POGO ELEMENT . contains L1 H1 L1 repetitive element;     |                    |
| 882 13362        |                 |                | 5.18              | 4.0E-31 AJ271735.1                   | NT                    | Homo sapiens Xq pseudautosomal region; segment 1/2   |                    |
|                  |                 |                |                   |                                      |                       | POLYPEPTIDE N-ACETYLGLACTOSAMINYLTRANSFERASE (PROTEIN UDP ACETYLGLACTOSAMINYLTRANSFERASE) (UDP-GALNAC:POLYPEPTIDE, N-ACETYLGLACTOSAMINYLTRANSFERASE) (GALNAC-T1) |                    |
| 1606 14252       |                 | 27040          | 0.91              | 4.0E-31 Q10473                       | SWISSPROT             | Homo sapiens chromosome 21 segment HS21C090  |                    |
| 1810 14450       |                 |                | 1.57              | 4.0E-31 AL163280.2                   | NT                    | Homo sapiens SET domain and mariner transposase fusion gene (SETMAR) mRNA  |                    |
| 2792 15497       |                 |                | 1.23              | 4.0E-31 5730038.38                   | NT                    | Homo sapiens SET domain and mariner transposase fusion gene (SETMAR) mRNA  |                    |
| 12205 24672      |                 |                | 1.88              | 4.0E-31 AJ230125.1                   | NT                    | Homo sapiens GGT1 gene, exon 1   |                    |
| 12457 24828      |                 |                | 1.88              | 4.0E-31 11430273                     | NT                    | Homo sapiens KIAA0569 gene product (KIAA0569), mRNA  |                    |
| 7239 18824       |                 | 32898          | 12.23             | 3.0E-31                              | 4826853 NT            | Homo sapiens NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 8 (NDUFB8) mRNA  |                    |
| 7393 20072       |                 | 33151          | 1.26              | 3.0E-31                              | 11420329 NT           | Homo sapiens hypothetical protein FLJ10842 (FLJ10842), mRNA  |                    |
| 8081 20755       |                 |                | 2                 | 3.0E-31 AL163203.2                   | NT                    | Homo sapiens chromosome 21 segment HS21C098  |                    |
| 8478 22132       |                 | 35312          | 3.7               | 3.0E-31 D14523.1                     | NT                    | Horse mRNA for ferritin L-chain, complete cds  |                    |
| 10498 23144      |                 | 38371          | 0.54              | 3.0E-31 AA421242.1                   | EST_HUMAN             | z106d04_1 Soares, bestis_NHT Homo sapiens cDNA clone IMAGE:731047 5'   |                    |
| 10527 23224      |                 | 36459          | 2.04              | 3.0E-31 P11174                       | SWISSPROT             | 40S RIBOSOMAL PROTEIN S15 (RIG PROTEIN)  |                    |
| 11101 23771      |                 |                | 3.66              | 3.0E-31 BF035327.1                   | EST_HUMAN             | 601458531F1 NIH_MGC_88 Homo sapiens cDNA clone IMAGE:3862086 5'  |                    |
| 12819 25059      |                 |                | 1.68              | 3.0E-31 AB037763.1                   | NT                    | Homo sapiens mRNA for KIAA1342 protein, partial cds  |                    |
| 1910 14647       |                 | 27358          | 1.37              | 2.0E-31 AW838171.1                   | EST_HUMAN             | QV2-LT0051-280300-111-f03 LT0051 Homo sapiens cDNA   |                    |
| 2211 14639       |                 | 27877          | 1.09              | 2.0E-31 AI383588.1                   | EST_HUMAN             | tg44605_x1 Soares, NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2111672 3'   |                    |
| 2339 15062       |                 | 27800          | 1.89              | 2.0E-31 AL110245.1                   | EST_HUMAN             | DKFZp761G1613_T_761 (synonym: hmy2) Homo sapiens cDNA clone DKFZp761G1513 5'   |                    |
| 2442 15161       |                 | 27898          | 4.01              | 2.0E-31 AA458824.1                   | EST_HUMAN             | aa88f1_s1 Strategene fetal retina 837202 Homo sapiens cDNA clone IMAGE:838413 3' similar to contains T-HR.12 T-HR repetitive element;                            |                    |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source            | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|------------------------------------|---|
| 6193             | 18601           | 30624          | 0.81              | 2.0E-31                              | AW444496.1            | EST_HUMAN                          | U1-H-B13-akB-f-09-0-U1.s1 NCI_CGAP_Sub5 Homo sapiens cDNA clone IMAGE:3146256 3' similar to contains MER20 ls3  |
| 5824             | 18421           | 31334          | 3.57              | 2.0E-31                              | BE350127.1            | EST_HUMAN                          | h09g01.x1 NCI_CGAP_Kid13 Homo sapiens cDNA clone IMAGE:3146256 3' similar to contains MER20 ls3   |
| 8975             | 21685           |                | 2.05              | 2.0E-31                              | AA877784.1            | EST_HUMAN                          | MER20 repetitive element; nrof04.s1 NCI_CGAP_Co10 Homo sapiens cDNA clone IMAGE:1161055 3' similar to TR.Q13537 Q13537  |
| 9107             | 21795           | 34959          | 3.64              | 2.0E-31                              | 7681535.NT            | Homo sapiens B9 protein (B9), mRNA | MER37 TRANSPOSABLE ELEMENT, COMPLETE CONSENSUS SEQUENCE.;   |
| 9808             | 22457           | 35661          | 0.94              | 2.0E-31                              | AV710948.1            | EST_HUMAN                          | AV710948.CU Homo sapiens cDNA clone QUAALB07 5'   |
| 9808             | 22457           | 35662          | 0.94              | 2.0E-31                              | AV710948.1            | EST_HUMAN                          | AV710948.CU Homo sapiens cDNA clone QUAALB07 5'   |
| 9973             | 22623           | 35829          | 2.35              | 2.0E-31                              | BE408611.1            | EST_HUMAN                          | 601304125F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3638310 5'   |
| 9975             | 22623           | 35830          | 2.35              | 2.0E-31                              | BE408611.1            | EST_HUMAN                          | 601304125F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3638310 5'   |
| 12144            | 24632           |                | 1.56              | 2.0E-31                              | AF148512.1            | NT                                 | Homo sapiens headtissue II gene, promoter region  |
| 12279            | 28413           |                | 1.75              | 2.0E-31                              | AI14527.1             | EST_HUMAN                          | HA1110 Human fetal liver cDNA library/Homo sapiens cDNA   |
| 15               | 12842           | 25458          | 11.09             | 1.0E-31                              | U83163.1              | NT                                 | Homo sapiens MAGE-B2 (MAGE-B2), MAGE-B3 (MAGE-B3), MAGE-B4 (MAGE-B4), and MAGE-B1 (MAGE-B1) genes, complete cds   |
| 1658             | 14404           | 27092          | 1.35              | 1.0E-31                              | O95371                | SWISSPROT                          | OLFFACTORY RECEPTOR 2C1   |
| 1658             | 14404           | 27093          | 1.35              | 1.0E-31                              | O95371                | SWISSPROT                          | OLFFACTORY RECEPTOR 2C1   |
| 1658             | 14404           | 27094          | 1.35              | 1.0E-31                              | O95371                | SWISSPROT                          | OLFFACTORY RECEPTOR 2C1   |
| 4592             | 17327           | 28952          | 1.15              | 1.0E-31                              | AL134376.1            | EST_HUMAN                          | DKFZp547B235 r1 647 (synonym: hirf1) Homo sapiens cDNA clone DKFZp547B235 5'  |
| 4592             | 17327           | 28953          | 1.15              | 1.0E-31                              | AL134376.1            | EST_HUMAN                          | DKFZp547B235 r1 647 (synonym: hirf1) Homo sapiens cDNA clone DKFZp547B235 5'  |
| 6210             | 18018           | 30840          | 3.79              | 1.0E-31                              | AW391679.1            | EST_HUMAN                          | MR3-ST0220-151299-02B-e08 1 ST0220 Homo sapiens cDNA  |
| 6042             | 18822           | 31782          | 2.2               | 1.0E-31                              | AF048727.1            | NT                                 | Homo sapiens minisatellite cab1 repeat region   |
| 7189             | 19876           | 32948          | 1                 | 1.0E-31                              | AF128145.1            | NT                                 | Bos taurus xenobiotic/medium-chain fatty acid:CoA ligase form X-I-III mRNA, nuclear mRNA encoding mitochondrial protein, complete cds   |
| 10136            | 22784           | 35895          | 0.51              | 1.0E-31                              | U83163.1              | NT                                 | Homo sapiens MAGE-B2 (MAGE-B2), MAGE-B3 (MAGE-B3), MAGE-B4 (MAGE-B4), and MAGE-B1 (MAGE-B1) genes, complete cds   |
| 10833            | 23515           | 36757          | 2.7               | 1.0E-31                              | AI088494.1            | EST_HUMAN                          | q21h03.x1 NCI_CGAP_Bm25 Homo sapiens cDNA clone IMAGE:1750709 3' similar to TR.Q16855   |
|                  |                 |                |                   |                                      |                       |                                    | Q16855 FRATAXIN.;   |
| 11830            | 24414           | 37752          | 1.48              | 1.0E-31                              | U68061.1              | NT                                 | Human gamma T-cell receptor beta chain TCRBV17S1A1T, TCRBV231, TCRBV10S1P, TCRBV28S1P, TCRBV18S1P, TCRBV15S1, TCRBV11S1A1T, TCRBV4S1A1T, HVB relc, TCRBV28S1P, TCRBV34S1, TCRBV14S1, TCRBV3S1, TCRBV4S1A1T, TRY4, TRY5, TRY6, TRY7, TRY8, TCRBD1, TCRBJ1S1, TCRBJ1S2> |
| 6542             | 19807           | 32312          | 2.38              | 9.0E-32                              | AV723976.1            | EST_HUMAN                          | AV723976 HTB Homo sapiens cDNA clone HTBAAG01 5'  |
| 7492             | 20164           |                | 0.66              | 9.0E-32                              | 11430822.NT           | NT                                 | Homo sapiens hypothetical protein FLJ11284 (FLJ11284), mRNA   |
| 2070             | 14802           | 27530          | 2.48              | 8.0E-32                              | AI058770.1            | EST_HUMAN                          | o2f5a09.x1 Soares_fetal_liver_spleen_cDNA clone IMAGE:1675384 3'  |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|--|
| 6394             | 18194           | 30897          | 0.97              | 8.0E-32                    | AW897214.1            | EST_HUMAN               | RC2-BN0048-200300-016-004 BN0048 Homo sapiens cDNA NUCLEAR ENVELOPE PORE MEMBRANE PROTEIN POM 121 (PORE MEMBRANE PROTEIN OF 121 KD) (P145) |
| 4807             | 17538           | 30161          | 0.88              | 7.0E-32                    | P52581                | SWISSPROT               | Human chromosome 22 Immunoglobulin V(K) gene, part with 5' breakpoint between orphion and neighbouring non-amplified region                |
| 12122            | 24614           |                | 8.19              | 7.0E-32                    | X17283.1              | NT                      |  |
| 2735             | 15442           | 28180          | 1.01              | 6.0E-32                    | AI478104.1            | EST_HUMAN               | mer28 repetitive element; nt34810_x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE-2158884 3' similar to contains MER28_3                   |
| 7269             | 19850           |                | 1.47              | 6.0E-32                    | BE888018.1            | EST_HUMAN               | 6016116301_F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE-3913087 5'  |
| 1011             | 13771           | 28431          | 16.78             | 5.0E-32                    | AF166827.1            | NT                      | Homo sapiens PRO1181 mRNA, complete cds  |
| 910              | 13677           |                | 1.78              | 4.0E-32                    | AL163248.2            | NT                      | Homo sapiens chromosome 21 segment HS21C048  |
| 5148             | 17887           |                | 0.91              | 4.0E-32                    | AI985593.1            | EST_HUMAN               | ws08h12_x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE-2496847 3' similar to contains MER18_63 MER18 repetitive element;                  |
| 7503             | 20174           | 33288          | 2.94              | 4.0E-32                    | 11432574              | NT                      | Homo sapiens AT-binding transcription factor 1 (ATBF1), mRNA   |
| 7638             | 20174           | 33287          | 2.94              | 4.0E-32                    | 11432574              | NT                      | Homo sapiens AT-binding transcription factor 1 (ATBF1), mRNA   |
| 8257             | 20851           |                | 1.2               | 4.0E-32                    | BE064410.1            | EST_HUMAN               | RC4-BT031-141198-011-h08 BT0311 Homo sapiens cDNA  |
| 443              | 132229          | 25872          | 3.7               | 3.0E-32                    | Y17283.1              | NT                      | Homo sapiens FL-1 gene, partial  |
| 1437             | 14184           | 26870          | 8.08              | 3.0E-32                    | AV731500.1            | EST_HUMAN               | AV731500_H-TF_Homo sapiens cDNA clone HTFAKKC07 5'   |
| 9234             | 21981           | 35135          | 8.38              | 3.0E-32                    | AV7588684.1           | EST_HUMAN               | AV7588684_BM_Homo sapiens cDNA clone BMFBBH12_5  |
| 9234             | 21981           | 35136          | 8.38              | 3.0E-32                    | AV7588684.1           | EST_HUMAN               | AV7588684_BM_Homo sapiens cDNA clone BMFBBH12_5  |
| 10843            | 23525           | 36768          | 3.57              | 3.0E-32                    | AA377621.1            | EST_HUMAN               | 2656107.51 Scores_fetal_liver_spleen_1NFLS_S1_Homo sapiens cDNA clone IMAGE-448500 3' similar to contains THR8 THR repetitive element;     |
| 12146            | 24634           |                | 3.51              | 3.0E-32                    | BE279098.1            | EST_HUMAN               | 601156285F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE-3139701 5'  |
| 12507            | 17889           | 30588          | 2.97              | 3.0E-32                    | 5174574               | NT                      | Homo sapiens myeloid/lymphoid or mixed-lineage leukemia (Drosophila) homolog; translocated to, 4 (MLL74) mRNA                              |
| 12507            | 17889           | 30587          | 2.97              | 3.0E-32                    | 5174574               | NT                      | Homo sapiens myeloid/lymphoid or mixed-lineage leukemia (Drosophila) homolog; translocated to, 4 (MLL74) mRNA                              |
| 12666            | 24956           |                | 2.27              | 3.0E-32                    | BE279098.1            | EST_HUMAN               | 601156285F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE-3139701 5'  |
| 6159             | 18935           | 31902          | 0.81              | 2.0E-32                    | M35418.1              | NT                      | Human cell 12-lipoxygenase mRNA, complete cds  |
| 6337             | 19156           | 32155          | 5.32              | 2.0E-32                    | Z38133.1              | NT                      | H.sapiens mRNA for myosin  |
| 6337             | 19156           | 32156          | 5.32              | 2.0E-32                    | Z38133.1              | NT                      | H.sapiens mRNA for myosin  |
| 8176             | 20870           | 34003          | 2.26              | 2.0E-32                    | AA114294.1            | EST_HUMAN               | zr68c08_r1 Stratagene HeLa cell s3 887216 Homo sapiens cDNA clone IMAGE-563150 5'  |
| 8178             | 20870           | 34004          | 2.26              | 2.0E-32                    | AA114294.1            | EST_HUMAN               | zr68c08_r1 Stratagene HeLa cell s3 887216 Homo sapiens cDNA clone IMAGE-563150 5'  |
| 11859            | 24443           | 37784          | 2.98              | 2.0E-32                    | T188862.1             | EST_HUMAN               | b120561 Testis 1 Homo sapiens cDNA clone b12056  |
| 12753            | 25022           | 30961          | 2.42              | 2.0E-32                    | AV736449.1            | EST_HUMAN               | AV736449_C8 Homo sapiens cDNA clone CBFBA108 5'  |

Table 4

## Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | (Top) Hit No. | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------|---------------|-----------------------|---|--------------------|
| 12783            | 250222          | 30982          | 2.42              | 2.0E-32                    | AV736449.1    | EST HUMAN             | AV736448 CB Homo sapiens cDNA clone CBFBA08 5'  |                    |
| 3090             | 158555          |                | 1.67              | 1.0E-32                    | BE743288.1    | EST HUMAN             | 6015732071 NIH_MGC_B Homo sapiens cDNA clone IMAGE:3834433 5'   |                    |
| 6955             | 19437           | 32453          | 7.02              | 1.0E-32                    | 11439789      | NT                    | Homo sapiens chromosome 11 open reading frame 9 (C11ORF9), mRNA   |                    |
| 8494             | 21186           | 34329          | 8.08              | 1.0E-32                    | AA720574.1    | EST HUMAN             | nm_21692_s1 NCI_CGAP_GCB0 Homo sapiens cDNA clone IMAGE:1241138 3' similar to contains THR<sup>33</sup>   |                    |
| 3474             | 16230           |                | 4.58              | 9.0E-33                    | BE527112.1    | EST HUMAN             | THR repetitive element ; WW DOMAIN BINDING PROTEIN 11. ; Homo sapiens calcium channel alpha 1E subunit (CACNA1E) gene, exons 7-49, and partial cds, alternatively spliced |                    |
| 6326             | 190956          |                | 4.05              | 9.0E-33                    | AF223391.1    | NT                    | 602021164F1 NCI_CGAP_Bm67 Homo sapiens cDNA clone IMAGE:4156670 5'  |                    |
| 8887             | 21379           | 34623          | 1.96              | 9.0E-33                    | BF347226.1    | EST HUMAN             | Homo sapiens chromosome 21 segment HS21CO80   |                    |
| 10701            | 233892          |                | 5.22              | 9.0E-33                    | AL163280.2    | NT                    | Homo sapiens short-chain alcohol dehydrogenase family member (HEP27) mRNA   |                    |
| 58               | 12987           | 25517          | 3.14              | 7.0E-33                    | 5031738       | NT                    | Homo sapiens short-chain alcohol dehydrogenase family member (HEP27) mRNA   |                    |
| 58               | 12987           | 25518          | 3.14              | 7.0E-33                    | 6031738       | NT                    | tot12609_x1 NCI_CGAP_U12 Homo sapiens cDNA clone IMAGE:2178809 3' similar to contains OFR_H1 OFR repetitive element ;   |                    |
| 2158             | 148888          | 27622          | 2.29              | 7.0E-33                    | AL580115.1    | EST HUMAN             | AV730056 HTTF Homo sapiens cDNA clone HTFAVE08 5'   |                    |
| 2856             | 153865          |                | 6.46              | 7.0E-33                    | AV730056.1    | EST HUMAN             | EST1383386 MAGE sequences, MAGL Homo sapiens cDNA   |                    |
| 3236             | 159898          |                | 9.3               | 7.0E-33                    | AW971307.1    | EST HUMAN             | Human hLRP mRNA for leukocyte common antigen-related peptide (protein-tyrosine phosphate) (EC 3.1.3.48)   |                    |
| 8845             | 21537           |                | 1.56              | 7.0E-33                    | X54890.1      | NT                    | 602021164F1 NCI_CGAP_Bm67 Homo sapiens cDNA clone IMAGE:4156670 5'  |                    |
| 10732            | 23419           | 36680          | 2.41              | 7.0E-33                    | BF347229.1    | EST HUMAN             | EST1383387 MAGE sequences, MAGL Homo sapiens cDNA   |                    |
| 11213            | 23876           | 37162          | 1.83              | 7.0E-33                    | AW971568.1    | EST HUMAN             | EST1383387 MAGE sequences, MAGL Homo sapiens cDNA clone IMAGE:11009881 3' similar to contains L1_H1 L1  |                    |
| 12127            | 24619           | 31090          | 4.34              | 7.0E-33                    | AA601416.1    | EST HUMAN             | nt16101_s1 NCI_CGAP_Pher1 Homo sapiens cDNA clone IMAGE:11009881 3' similar to contains L1_H1 L1  |                    |
| 3720             | 16473           |                | 0.94              | 9.0E-33                    | AL163289.2    | NT                    | Homo sapiens chromosome 21 segment HS21CO85 repetitive element ;  |                    |
| 5976             | 187583          | 31720          | 0.96              | 8.0E-33                    | F30631.1      | EST HUMAN             | HSPD21201 HM3 Homo sapiens cDNA clone s4000107+08   |                    |
| 5976             | 187583          | 31721          | 0.96              | 8.0E-33                    | F30631.1      | EST HUMAN             | HSPD21201 HM3 Homo sapiens cDNA clone s4000107+08   |                    |
| 8478             | 21170           | 34315          | 9.33              | 8.0E-33                    | J04038.1      | NT                    | Human glyceradehyde-3-phosphate dehydrogenase (GAPDH) gene, complete cds  |                    |
| 8503             | 21295           | 34438          | 3.09              | 8.0E-33                    | 11429198      | NT                    | Homo sapiens similar to RAD23 ( <i>S. cerevisiae</i> ) homolog B ( <i>H. sapiens</i> ) (LOC33277), mRNA   |                    |
| 8910             | 225559          | 35754          | 1.12              | 6.0E-33                    | 6765609       | NT                    | Mus musculus SRY-box containing gene 6 (Sox6), mRNA   |                    |
| 8910             | 225559          | 35755          | 1.12              | 8.0E-33                    | 6755609       | NT                    | Mus musculus SRY-box containing gene 6 (Sox6), mRNA   |                    |
| 1770             | 14512           |                |                   | 1.46                       | 5.0E-33       | BF373515.1            | QV1-F10168-100700-271-a02 F10168 Homo sapiens cDNA  |                    |
| 1874             | 14612           |                |                   | 1.19                       | 5.0E-33       | 11141834              | Homo sapiens solute carrier family 5 (chloride transporter), member 7 (SLC5A7), mRNA  |                    |
| 1891             | 14623           | 27337          | 1.43              | 5.0E-33                    | 4507208       | NT                    | Homo sapiens spermidine synthase (SRM) mRNA   |                    |
| 1891             | 14623           | 27338          | 1.43              | 5.0E-33                    | 4507208       | NT                    | Homo sapiens spermidine synthase (SRM) mRNA   |                    |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 2270             | 14898           |                | 1.29              | 5.0E-33                              | AL165285.2            | NT                      | Homo sapiens chromosome 21 segment HS21C035  |
| 10148            | 22786           | 36010          | 0.8               | 5.0E-33                              | AW284678.1            | EST_HUMAN               | gb 33f11.x1 NCI CGAP_Lu28 Homo sapiens cDNA clone IMAGE:2752461 3'   |
| 10148            | 22786           | 36011          | 0.8               | 5.0E-33                              | AW284679.1            | EST_HUMAN               | gb 33f11.x1 NCI CGAP_Lu28 Homo sapiens cDNA clone IMAGE:2752461 3'   |
| 1106             | 13863           |                | 2.16              | 4.0E-33                              | AL165207.2            | NT                      | Homo sapiens chromosome 21 segment HS21C007  |
| 2221             | 14892           | 27581          | 1.64              | 4.0E-33                              |                       | 4738987 NT              | Homo sapiens RAB1, member RAS oncogene family (RAB1) mRNA  |
| 2419             | 15140           |                | 2.02              | 4.0E-33                              | AA629821.1            | EST_HUMAN               | ab51b11.r1 Stratagene Lung carcinoma 837218 Homo sapiens cDNA clone IMAGE:844317 5' similar to contains Ali repetitive element               |
| 2547             | 15292           | 27989          | 4.15              | 4.0E-33                              | AL165210.2            | NT                      | ab51b12.ali-o-03-0-11.s1 NCI CGAP_Sub4 Homo sapiens cDNA clone IMAGE:2727146 3'  |
| 4450             | 17188           | 28811          | 2.16              | 4.0E-33                              | AW283349.1            | EST_HUMAN               | UH-B12.ali-o-03-0-11.s1 NCI CGAP_Sub4 Homo sapiens cDNA clone IMAGE:510038 5' similar to   |
| 5318             | 18122           | 30779          | 24.73             | 4.0E-33                              | AA053053.1            | EST_HUMAN               | 2771a08.r1 Stratagene cokn (#837204) Homo sapiens cDNA clone IMAGE:gb X12671 .mat HETEROGENEOUS NUCLEAR RIBONUCLEOPROTEIN A1 (HUMAN);        |
| 6289             | 18072           | 32057          | 0.87              | 4.0E-33                              | 83939894              | NT                      | Homo sapiens polymerase (DNA directed), alpha (POLA), mRNA   |
| 6289             | 18072           | 32058          | 0.87              | 4.0E-33                              | 83939894              | NT                      | Homo sapiens polymerase (DNA directed), alpha (POLA), mRNA   |
| 1067             | 13825           |                | 5.5               | 3.0E-33                              | BE250127.1            | EST_HUMAN               | ab51g01.x1 NCI CGAP_Kid13 Homo sapiens cDNA clone IMAGE:3146256 3' similar to contains MER29.b3 MER29 repetitive element;                    |
| 1068             | 13825           |                | 3.89              | 3.0E-33                              | BE250127.1            | EST_HUMAN               | ab51g01.x1 NCI CGAP_Kid13 Homo sapiens cDNA clone IMAGE:3146256 3' similar to contains MER29.b3 MER29 repetitive element;                    |
| 2451             | 15585           |                | 0.82              | 3.0E-33                              | AV647851.1            | EST_HUMAN               | AV647851 GLC Homo sapiens cDNA clone GLOCBCF09 3'  |
| 10338            | 22895           | 36203          | 1.04              | 3.0E-33                              | AA861610.1            | EST_HUMAN               | ab32612.s1 Scores._testis_NHT Homo sapiens cDNA clone IMAGE:1407647 3' similar to TR:Q13578 Q13579 MARINER TRANSPOSEASE.;                    |
| 102              | 12843           |                | 3.21              | 2.0E-33                              | A1160188.1            | EST_HUMAN               | q967g03.x1 Scores._testis_heart_NbHH19N Homo sapiens cDNA clone IMAGE:1705204 3' similar to contains OFR_H OFR repetitive element;           |
| 4385             | 17122           |                | 5.39              | 2.0E-33                              | BE165039.1            | EST_HUMAN               | MR0-HT0405-160300-202-d08 HT0405 Homo sapiens cDNA   |
| 4925             | 17653           | 30285          | 28.91             | 2.0E-33                              | AA629683.1            | EST_HUMAN               | ab51g11.r1 Stratagene Lung carcinoma 837218 Homo sapiens cDNA clone IMAGE:844398 5' similar to gb X00734 .cds1 TUBULIN BETA-5 CHAIN (HUMAN); |
| 5033             | 17753           | 30365          | 2.76              | 2.0E-33                              | 11421332 NT           |                         | Homo sapiens hypothetical protein SIRP-b2 (SIRP-b2), mRNA  |
| 5033             | 17753           | 30366          | 2.75              | 2.0E-33                              | 11421332 NT           |                         | Homo sapiens hypothetical protein SIRP-b2 (SIRP-b2), mRNA  |
| 6329             | 19099           | 32087          | 1.81              | 2.0E-33                              | A1277492.1            | EST_HUMAN               | q98d01.x1 Scores_NhHMPr_S1 Homo sapiens cDNA clone IMAGE:1880161 3'  |
| 8988             | 21688           |                | 2.18              | 2.0E-33                              | AID52256.1            | EST_HUMAN               | aa21d03.x1 Scores_fetal_liver_spleen_INFSL_S1 Homo sapiens cDNA clone IMAGE:16756973 3' similar to   |
| 10513            | 23159           | 36384          | 1.48              | 2.0E-33                              | 11421332 NT           |                         | gb N29536 TRANSLATIONAL INITIATION FACTOR 2 BETA SUBUNIT (HUMAN);  |
| 10513            | 23159           | 36385          | 1.48              | 2.0E-33                              | 11421332 NT           |                         | Homo sapiens hypothetical protein SIRP-b2 (SIRP-b2), mRNA  |
| 11046            | 23716           | 36885          | 1.28              | 2.0E-33                              | AA453647.1            | EST_HUMAN               | zz48f05.s1 Scores._testis_NHT Homo sapiens cDNA clone IMAGE:785489 3' similar to TR:G1283081 G1283081 MARINER TRANSPOSEASE.;                 |

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Table 4  
Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 8                | 12835           |                |                   | 1.1E-33                              | AF003528.1            | NT                      | Homo sapiens X-linked arthritrophic ectodermal dysplasia protein gene (EDA), exon 2 and flanking repeat regions                  |
| 5156             | 17873           | 30485          |                   | 2.4E-33                              | 4502556               | NT                      | Homo sapiens calcium/calmodulin-dependent protein kinase IV (CAMK4) mRNA   |
| 5501             | 18289           | 31168          |                   | 0.68                                 | 1.0E-33               | AF189420.1              | Homo sapiens F-box protein FBX4 (FBX4) mRNA, complete cds  |
| 7307             | 18980           | 33067          |                   | 1.04                                 | 1.0E-33               | M13975.1                | Homo sapiens protein kinase C beta-II type (PRKCBB1) mRNA, complete cds  |
| 9920             | 25432           |                |                   | 0.84                                 | 1.0E-33               | U60822.1                | Human dystrophin (DMD) gene, exons 7, 8 and 9, and partial cds   |
| 11292            | 23953           | 37251          |                   | 1.83                                 | 1.0E-33               | AW988818.1              | QV3-BN0047-230200-102-b03 BN0047 Homo sapiens cDNA   |
| 11683            | 24259           | 97581          |                   | 3.32                                 | 1.0E-33               | U60822.1                | Human dystrophin (DMD) gene, exons 7, 8 and 9, and partial cds   |
| 12407            | 24780           |                |                   | 2.21                                 | 1.0E-33               | A1827191.1              | EST_HUMAN  |
| 12570            | 12835           |                |                   | 4.07                                 | 1.0E-33               | AF003528.1              | Homo sapiens X-linked arthritrophic ectodermal dysplasia protein gene (EDA), exon 2 and flanking repeat regions                  |
| 12602            | 24914           | 31003          |                   | 1.41                                 | 1.0E-33               | AV727809.1              | HTC Homo sapiens cDNA clone HTCCNC12.5'  |
| 12780            | 25034           |                |                   | 1.61                                 | 8.0E-34               | AJ271735.1              | NT   |
| 2168             | 14897           | 27631          |                   | 0.96                                 | 8.0E-34               | 8922761                 | Homo sapiens hypothetical protein FLJ10900 (FLJ10900), mRNA  |
| 7689             | 20353           | 33468          |                   | 0.68                                 | 8.0E-34               | BE0636882.1             | MR4-BT0389-200100-001-h03 BT0389 Homo sapiens cDNA   |
| 1426             | 14173           | 28858          |                   | 2.27                                 | 7.0E-34               | T70845.1                | EST_HUMAN  |
| 8800             | 14173           | 28858          |                   | 0.56                                 | 7.0E-34               | T70845.1                | EST_HUMAN  |
| 12191            | 24682           |                |                   | 3.05                                 | 7.0E-34               | H12888.1                | EST_HUMAN  |
| 458              | 13243           | 25884          |                   | 2.3                                  | 6.0E-34               | U10881.1                | NT   |
| 468              | 13243           | 25885          |                   | 2.3                                  | 6.0E-34               | U10881.1                | Human G2 protein mRNA, partial cds   |
| 12011            | 24544           | 31107          |                   | 2.13                                 | 6.0E-34               | U03688.1                | NT   |
| 1873             | 14611           |                |                   | 2.8                                  | 5.0E-34               | 7708500                 | Hom sapiens Npw38-binding protein Npw38 (LOC511720), mRNA  |
| 5002             | 17725           | 30328          |                   | 3.81                                 | 6.0E-34               | U30883.1                | Human splicing factor SRP55-1 (SRP-55) mRNA, complete cds  |
| 8765             | 21457           | 34607          |                   | 1.37                                 | 5.0E-34               | AF078778.1              | Rattus norvegicus putative four repeat ion channel mRNA, complete cds  |
| 10550            | 23461           | 36482          |                   | 2.24                                 | 5.0E-34               | AB037856.1              | Mus musculus DAB2I, hair-specific (hac-1) gene   |
| 11219            | 23882           |                |                   | 1.78                                 | 5.0E-34               | AL163209.2              | Hom sapiens chromosome 21, segment HS21C008  |
| 1891             | 14727           | 27449          |                   | 1.84                                 | 4.0E-34               | A1804687.1              | EST_HUMAN  |
| 5770             | 18561           | 31488          |                   | 0.84                                 | 4.0E-34               | AA881773.1              | EST_HUMAN  |
| 8938             | 21627           | 34769          |                   | 1.26                                 | 4.0E-34               | BF269778.1              | EST_HUMAN  |
| 6138             | 18916           | 31686          |                   | 0.78                                 | 3.0E-34               | M37277.1                | Human Ig gemline H-chain D-region genes, partial cds   |
| 11100            | 23770           |                |                   | 3.14                                 | 3.0E-34               | BR035327.1              | EST_HUMAN  |
| 8850             | 21541           | 34687          |                   | 1.16                                 | 2.0E-34               | A1678101.1              | wdd35606.x1 Soares _NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2330170 3' similar to centains MER29_12 MER28 repetitive element; |

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**Table 4**  
**Single Exon Probes Expressed In Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No.   | Top Hit Database Source                                       | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------------|---|---|---|
| 8850             | 21541           | 346888         | 1.16              | 2.0E-34                          | Al678101.1  | EST_HUMAN   | W0356108_x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2330170 3' similar to contains MER28_x2 MER29 repetitive element; |
| 11113            | 23783           | 37057          | 1.34              | 2.0E-34                          | P51805  | SWISSPROT   | PLEXIN 4 PRECURSOR (TRANSMEMBRANE PROTEIN SEX)  |
| 11113            | 23783           | 37058          | 1.34              | 2.0E-34                          | P51805  | SWISSPROT   | PLEXIN 4 PRECURSOR (TRANSMEMBRANE PROTEIN SEX)  |
| 1494             | 14241           | 26928          | 6.53              | 1.0E-34                          | P12228  | SWISSPROT   | ADP/ATP CARRIER PROTEIN, LIVER ISOFORM T2 (ADP/ATP TRANSLOCASE 3) (ADENINE NUCLEOTIDE TRANSLOCATOR 3) (ANT 3)                   |
| 36883            | 16416           | 26055          | 1.32              | 1.0E-34                          | AF003528.1  | NT  | Homo sapiens X-linked epidermal dysplasia protein gene (ED), exon 2 and flanking repeat regions                                 |
| 4051             | 16796           | 29425          | 0.97              | 1.0E-34                          | AY008397.1  | NT  | Homo sapiens WNT3 precursor (WNT3) mRNA, complete cds   |
| 4051             | 16796           | 29426          | 0.97              | 1.0E-34                          | AY008397.1  | NT  | Homo sapiens WNT3 precursor (WNT3) mRNA, complete cds   |
| 4446             | 17182           |                | 3.44              | 1.0E-34                          | BE071414.1  | EST_HUMAN   | RC2-BT0508-240400-016-h08 BT0506 Homo sapiens cDNA  |
| 6047             | 18827           | 31788          | 2.05              | 1.0E-34                          | BE874450F1 NIH_MGC_89 Homo sapiens cDNA clone IMAGE:38868998 5' | EST_HUMAN   | 601484430F1 NIH_MGC_89 Homo sapiens cDNA clone IMAGE:38868998 5'  |
| 6047             | 18827           | 31789          | 2.05              | 1.0E-34                          | BE874452.1  | EST_HUMAN   | 601484430F1 NIH_MGC_89 Homo sapiens cDNA clone IMAGE:38868998 5'  |
| 9225             | 21904           | 35076          | 0.48              | 1.0E-34                          | P23288  | SWISSPROT   | OLFACTORY RECEPTOR-LIKE PROTEIN F6  |
| 9596             | 22249           | 35434          | 7.1               | 1.0E-34                          | AL038635.1  | EST_HUMAN   | DKFZP564A1583_J1 384 (synonym: Ifrb2) Homo sapiens cDNA clone DKFZP564A1583 5'  |
| 11138            | 23805           | 37083          | 1.39              | 1.0E-34                          | BE781780.1  | EST_HUMAN   | 601470592F1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE:3873478 5'   |
| 11138            | 23805           | 37084          | 1.39              | 1.0E-34                          | BE781780.1  | EST_HUMAN   | 601470592F1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE:3873478 5'   |
| 11153            | 23820           | 37100          | 1.82              | 1.0E-34                          | 11439588 NT   | Homosapiens nucleobindin 2 (NUCB2), mRNA                      | cc1c11_s1 NCI_CGAP_GC81 Homo sapiens cDNA clone IMAGE:1351316 3' similar to gb:X682033  |
| 12372            | 25350           |                | 1.65              | 1.0E-34                          | AA807997.1  | EST_HUMAN   | TYROSINE-PROTEIN KINASE RECEPTOR FLT4 PRECURSOR (HUMAN)   |
| 12583            | 24949           | 422            | 1.0E-34           | AL163210.2                       | NT  | Homosapiens chitosome 21 segment HS21C010                     |   |
| 36386            | 16389           | 28029          | 1.2               | 9.0E-35                          | AW663302.1  | EST_HUMAN   | hh77b08_y1 NCI_CGAP_GU1 Homo sapiens cDNA clone IMAGE:29868787 5'   |
| 218              | 13028           |                | 7.71              | 8.0E-35                          | 6031180 NT  | Homosapiens prohibitin (PHB), mRNA                            | nas23ad8_x1 NCI_CGAP_Kid1 Homo sapiens cDNA clone IMAGE:3258134 3' similar to TR:OT75912  |
| 1730             | 14472           | 27171          | 3.43              | 8.0E-35                          | BF588837.1  | EST_HUMAN   | O75912 DIACM GLYCEROL KINASE IOTA ;   |
| 1730             | 14472           | 27172          | 3.43              | 8.0E-35                          | BF588837.1  | EST_HUMAN   | nas23ad8_x1 NCI_CGAP_Kid1 Homo sapiens cDNA clone IMAGE:3258134 3' similar to TR:OT75912  |
| 4814             | 17545           | 30170          | 2.68              | 8.0E-35                          | BF183195.1  | EST_HUMAN   | O75912 DIACM GLYCEROL KINASE IOTA ;   |
| 10589            | 23283           | 36522          | 2.42              | 8.0E-36                          | BE378480.1  | EST_HUMAN   | 601236468F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:36008513 5'  |
| 12119            | 24611           |                | 3.95              | 8.0E-35                          | BF568282.1  | EST_HUMAN   | 602104624T1 NIH_MGC_42 Homo sapiens cDNA clone IMAGE:4600660 3'   |
| 63933            | 19182           | 32163          | 2.05              | 7.0E-35                          | 11425417 NT   | Homosapiens phosphatidylinositol glycan, class L (PIGL), mRNA |   |
| 13891            | 14138           | 26815          | 1.83              | 6.0E-36                          | AA767115.1  | EST_HUMAN   | ah52k03_s1 Scores_toxins_NHT Homo sapiens cDNA clone 13083397 3'  |
| 1980             | 14696           | 27409          | 2.09              | 6.0E-35                          | 60035975 NT   | Homosapiens zinc finger protein 268 (ZNF268), mRNA            | ULHBW0-8jd-d-09-0-UJ.s1 NCI_OGAP_Sub8 Homo sapiens cDNA clone IMAGE:2731433 3'  |
| 40930            | 16775           | 28406          | 0.84              | 6.0E-35                          | AW287191.1  | EST_HUMAN   | ULHBW0-8jd-d-09-0-UJ.s1 NCI_OGAP_Sub8 Homo sapiens cDNA clone IMAGE:2731433 3'  |

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Table 4  
Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor  |  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|---|---|--|
|                  |                 |                |                   |                            |                       |   |   |  |
| 7783             | 20493           | 33615          | 3.84              | 6.0E-35                    | 6005821 NT            | Homo sapiens triple functional domain (PTPRF Interacting) (TRIO), mRNA  |   |  |
| 8610             | 21302           | 34446          | 0.93              | 6.0E-35                    | X94232.1              | H. sapiens mRNA for novel T-cell activation protein   |   |  |
| 8610             | 21302           | 34446          | 0.93              | 6.0E-35                    | X94232.1              | H. sapiens mRNA for novel T-cell activation protein   |   |  |
| 9565             | 22218           | 35403          | 0.96              | 6.0E-35                    | AB002364.1            | Human mRNA for KIAA0366 gene, partial cds   |   |  |
| 9803             | 22454           | 35656          | 3.17              | 6.0E-35                    | AB037786.1            | Homo sapiens mRNA for KIAA1368 protein, partial cds   |   |  |
| 1704             | 14447           | 27148          | 1.38              | 5.0E-35                    | X65392.1              | H. sapiens Immunoglobulin kappa light chain variable region L14   |   |  |
| 2787             | 15492           | 28232          | 1.07              | 5.0E-35                    | AB007866.2            | Homo sapiens mRNA for KIAA0408 protein, partial cds   |   |  |
| 3003             | 15775           | 28424          | 1.7               | 5.0E-35                    | 6912639 NT            | Homo sapiens Ring1 and YY1 binding protein (RYBP), mRNA   |   |  |
| 4378             | 17113           | 29746          |                   | 5.0E-35                    | AF022268.1            | Homo sapiens cik2 kinase (CLK2), propin1, cote1, glucocerebrosidase (GBA), and metaxin genes, complete cds; imatanin pseudogene and glucocerebrosidase pseudogenes; and thrombospondin3 (THBS3) gene, partial cds |   |  |
| 8084             | 20778           |                | 3.99              | 5.0E-35                    | BE89092.1             | EST_HUMAN   | 601431984F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3917229 5'   |  |
| 8109             | 20803           | 33936          | 2.35              | 5.0E-35                    | AI208785.1            | EST_HUMAN   | Q986C05.X1 Soares_lests_NHT Homo sapiens cDNA clone IMAGE:1837448 3' similar to SW:Y249_HUMAN_Q92539 HYPOTHETICAL PROTEIN KIAA0249.;                            |  |
| 8109             | 20803           | 33937          | 2.35              | 5.0E-35                    | AI208785.1            | EST_HUMAN   | Q986C05.X1 Soares_lests_NHT Homo sapiens cDNA clone IMAGE:1837448 3' similar to SW:Y249_HUMAN_Q92539 HYPOTHETICAL PROTEIN KIAA0249.;                            |  |
| 11130            | 23798           |                | 2.46              | 5.0E-35                    | AA001786.1            | EST_HUMAN   | Zh8ff1211 Soares_fetal_liver_spleen_1NFLS_S1 Homo sapiens cDNA clone IMAGE:4280165 6'   |  |
| 1413             | 14161           | 28845          | 16.86             | 4.0E-35                    | BE257907.1            | EST_HUMAN   | 601108719F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3350405 5'   |  |
|                  |                 |                |                   |                            |                       |   | yu88e07.11 Soares_fetal_liver_spleen_1NFLS Homo sapiens cDNA clone IMAGE:241236 5 similar to contains   |  |
| 1811             | 14551           | 27265          | 4.87              | 4.0E-35                    | H91198.1              | EST_HUMAN   | PTR5 repetitive element;  |  |
| 4753             | 17485           |                | 0.72              | 4.0E-35                    | AF003528.1            | NT  | Homo sapiens X-linked epidermal dysplasia protein gene (EDA), exon 2 and flanking repeat regions  |  |
| 7108             | 19788           |                | 1.81              | 4.0E-35                    | BE350127.1            | EST_HUMAN   | Ht09g01.x1 NCI_CGAP_Kid13 Homo sapiens cDNA clone IMAGE:3146256 3' similar to contains MER29 ls3 MER29 repetitive element;                                      |  |
| 8416             | 21109           | 34248          | 8.88              | 4.0E-35                    | AL046598.1            | EST_HUMAN   | DKFZp434L14B_1f434 (synonym: hts-3) Homo sapiens cDNA clone DKFZp434L14B 5'   |  |
| 11729            | 24322           | 37648          | 1.38              | 4.0E-35                    | AW303317.1            | EST_HUMAN   | xv17f03.x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2813405 3' similar to contains Ali repetitive element;contains MER19_ls2 MER19 repetitive element; |  |
| 1573             | 14320           | 27006          | 7.78              | 3.0E-35                    | BE288182.1            | EST_HUMAN   | 601125260F1 NIH_MGC_8 Homo sapiens cDNA clone IMAGE:3345063 5'  |  |
| 22330            | 15055           |                | 1.5               | 3.0E-35                    | AF224482.1            | NT  | Homo sapiens phospholipid scramblase 1 gene, complete cds   |  |
| 5256             | 18062           | 30690          | 31.47             | 3.0E-35                    | BF433100.1            | EST_HUMAN   | 7n25a09.x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3565361 3' similar to TR:Q9QZ17_Q9QZ17_F-BOX PROTEIN FBL2.;  |  |
| 5256             | 18062           | 30691          | 31.47             | 3.0E-35                    | BF433100.1            | EST_HUMAN   | 7n25a09.x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3565361 3' similar to TR:Q9QZ17_Q9QZ17_F-BOX PROTEIN FBL2.;  |  |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 9388             | 22050           |                | 1.42              | 3.0E-35                              | AF223391.1            | NT                      | Homo sapiens calcium channel alpha1E subunit (CACNA1E) gene, exons 7-49, and partial cds, alternatively spliced   |
| 10074            | 227222          | 36939          | 1.12              | 3.0E-35                              | AW003063.1            | EST_HUMAN               | Wrd3set5x1 NCL_CGAP_GC6 Homo sapiens cDNA clone IMAGE:2480432 3' similar to SW-POL1_HUMAN P10268 RETROVIRUS-RELATED POL POLYPROTEIN [CONTAINS: REVERSE TRANSCRIPTASE; K6832F Human fetal heart, Lambda ZAP Express Homo sapiens cDNA clone K6832 5' similar to REPETITIVE ELEMENT |
| 108              | 15535           | 25567          | 1.88              | 2.0E-35                              | N88965.1              | EST_HUMAN               | A971F Heart Homo sapiens cDNA clone A971  |
| 1165             | 13919           | 26582          | 1.55              | 2.0E-35                              | T11909.1              | EST_HUMAN               | Homo sapiens mRNA for Gap2, complete cds  |
| 2215             | 14943           | 27683          | 5.73              | 2.0E-35                              | AB018413.1            | NT                      | Homo sapiens mRNA for Grb2-associated binder 2 (KIAA0571), mRNA   |
| 3306             | 16066           | 28714          | 1.12              | 2.0E-35                              | 69-12459              | NT                      | Homo sapiens Grb2-associated binder 2 (KIAA0571), mRNA  |
| 3306             | 16068           | 28715          | 1.12              | 2.0E-35                              | 69-12459              | NT                      | Homo sapiens mRNA for KIAA0585 protein, partial cds   |
| 3545             | 16300           |                | 0.94              | 2.0E-35                              | AB020702.1            | NT                      | TCBAP2E4328 Pediatric pre-B cell acute lymphoblastic leukemia Baylor+GSC project=TCBA_Homo sapiens cDNA clone TCBAP4328   |
| 3890             | 16840           | 28279          | 0.78              | 2.0E-35                              | BE247575.1            | EST_HUMAN               | TCBAP2E4328 Pediatric pre-B cell acute lymphoblastic leukemia Baylor+GSC project=TCBA_Homo sapiens cDNA clone TCBAP4328   |
| 3890             | 16840           | 28280          | 0.78              | 2.0E-35                              | BE247576.1            | EST_HUMAN               | TCBAP2E4328 Pediatric pre-B cell acute lymphoblastic leukemia Baylor+GSC project=TCBA_Homo sapiens cDNA clone TCBAP4328   |
| 4621             | 17358           |                | 2.57              | 2.0E-35                              | H49239.1              | EST_HUMAN               | X11812.1 Soares fetal liver spleen INFLS Homo sapiens cDNA clone IMAGE:274078 5'  |
| 6495             | 18294           | 31192          | 2.7               | 2.0E-35                              | BF332417.1            | EST_HUMAN               | QV0-BT0701-210400-189-604 BT0701 Homo sapiens cDNA  |
| 7004             | 19898           | 32749          | 0.85              | 2.0E-35                              | BE832836.1            | EST_HUMAN               | CM2-4T0125-280700-287-G02 MT0125 Homo sapiens cDNA  |
| 7004             | 19898           | 32750          | 0.85              | 2.0E-35                              | BE832836.1            | EST_HUMAN               | CM2-4T0125-280700-287-G02 MT0125 Homo sapiens cDNA  |
| 7776             | 20471           | 33583          | 0.45              | 2.0E-35                              | AV723718.1            | EST_HUMAN               | AV723718 HTB Homo sapiens cDNA clone HTBAYA10 5'  |
| 7776             | 20471           | 33594          | 0.45              | 2.0E-35                              | AV723718.1            | EST_HUMAN               | AV723718 HTB Homo sapiens cDNA clone HTBAYA10 5'  |
| 10697            | 23388           | 36826          | 2.24              | 2.0E-35                              | X59417.1              | NT                      | H.sapiens PROS-27 mRNA  |
| 11817            | 18294           | 31192          | 1.28              | 2.0E-35                              | BF332417.1            | EST_HUMAN               | QV0-BT0701-210400-189-604 BT0701 Homo sapiens cDNA  |
| 11889            | 16068           | 28714          | 1.72              | 2.0E-35                              | 69-12459              | NT                      | Homo sapiens Grb2-associated binder 2 (KIAA0571), mRNA  |
| 11889            | 16068           | 28715          | 1.72              | 2.0E-35                              | 69-12459              | NT                      | Homo sapiens Grb2-associated binder 2 (KIAA0571), mRNA  |
| 12062            | 24577           | 31120          | 1.36              | 2.0E-35                              | BE904878.1            | EST_HUMAN               | 601486774F1 NIH MGCG_70 Homo sapiens cDNA clone IMAGE:38986898 5'   |
| 12062            | 24577           | 31121          | 1.36              | 2.0E-35                              | BE904878.1            | EST_HUMAN               | 601486774F1 NIH MGCG_70 Homo sapiens cDNA clone IMAGE:38986898 5'   |
| 12572            | 24890           |                | 5.86              | 2.0E-35                              | AL168210.2            | NT                      | Homo sapiens chromosome 21 segment HS21C010   |
| 12689            | 16535           | 26567          | 1.58              | 2.0E-35                              | N88965.1              | EST_HUMAN               | K6832F Human fetal heart, Lambda ZAP Express Homo sapiens cDNA clone K6832 5' similar to REPETITIVE ELEMENT   |
| 45               | 12874           | 25498          | 6.81              | 1.0E-35                              | AA631949.1            | EST_HUMAN               | fmfc16 Regional generic DNA specific cDNA library Homo sapiens cDNA clone CR12-1  |
| 45               | 12874           | 25497          | 6.81              | 1.0E-35                              | AA631949.1            | EST_HUMAN               | fmfc16 Regional generic DNA specific cDNA library Homo sapiens cDNA clone CR12-1  |
| 735              | 13509           | 26165          | 1.95              | 1.0E-35                              | AW369473.1            | EST_HUMAN               | IL2-ST0162-131089-008-d12 ST0162 Homo sapiens cDNA  |

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**Table 4**  
**Single Exon Probes Expressed In Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No.                                   | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|---|-------------------------|--|
| 735              | 136509          | 281688         | 18.5              | 1.0E-35                              | AW389473.1  | EST_HUMAN               | IL2-ST0162-131089-008-d12 ST0162 Homo sapiens cDNA clone IMAGE-115762 5' similar to yd83a01.1 Severe fetal liver spleen TINF1S Homo sapiens cDNA clone IMAGE-115762 5' similar to SP-A44282 A44282 RETROVIRUS-RELATED POL POLYPROTEIN - HUMAN ; Homo sapiens hypothetical protein (LOC51233), mRNA |
| 889              | 136588          |                | 1.3               | 1.0E-35                              | T87947.1  | EST_HUMAN               | Homo sapiens hypothetical protein (LOC51233), mRNA   |
| 2544             | 152588          | 279988         | 1.88              | 1.0E-35                              | 7705694 NT  |                         | Ht09g01.x1 NCI_CGAP_Kid13 Homo sapiens cDNA clone IMAGE-3148258 3' similar to contains MER29 b3  |
| 2770             | 15475           | 28217          | 1.09              | 1.0E-35                              | BE350127.1  | EST_HUMAN               | MER29 repetitive element;  |
| 2770             | 15475           | 28218          | 1.09              | 1.0E-35                              | BE350127.1  | EST_HUMAN               | Ht09g01.x1 NCI_CGAP_Kid13 Homo sapiens cDNA clone IMAGE-3148258 3' similar to contains MER29 b3  |
| 3140             | 15504           | 28549          | 1.81              | 1.0E-35                              | 6008030 NT  |                         | MER29 repetitive element;  |
| 3161             | 15624           | 28570          | 3.3               | 1.0E-35                              | AV650422.1  | EST_HUMAN               | Homo sapiens transcription elongation factor B (SII), polypeptide 1-like (TCB1L) mRNA  |
| 3161             | 15624           | 28571          | 3.3               | 1.0E-35                              | AV650422.1  | EST_HUMAN               | AV650422 GLC Homo sapiens cDNA clone GLCECF08 3'   |
| 4588             | 17125           | 29756          | 3.83              | 1.0E-35                              | 7856805 NT  |                         | AV650422 GLC Homo sapiens cDNA clone GLCECF08 3'   |
| 4588             | 17125           | 29757          | 3.83              | 1.0E-35                              | 7856805 NT  |                         | Mus musculus activin receptor interacting protein 1 (Arip1)-pending), mRNA   |
| 6423             | 182222          | 30634          | 1.41              | 1.0E-35                              | 11526236 NT   |                         | Homo sapiens chromatin assembly factor 1, subunit B (pso) (CHAF1B), mRNA   |
| 7583             | 200683          | 33141          | 0.98              | 1.0E-35                              | AB033105.1  | NT                      | Homo sapiens mRNA for KIAA1279 protein, partial cds  |
| 7641             | 202111          | 33311          | 1.18              | 1.0E-35                              | 11418002 NT   |                         | Homo sapiens KIAA0845 gene product (KIAA0845), mRNA  |
| 8442             | 25125           | 35287          | 2.18              | 1.0E-35                              | AU158585 PLACE3 Homo sapiens cDNA clone PLACE3000382 3' |                         | AU158585 PLACE3 Homo sapiens cDNA clone PLACE3000382 3'  |
| 9442             | 25125           | 35288          | 2.18              | 1.0E-35                              | AU158585.1  | EST_HUMAN               | AU158585 PLACE3 Homo sapiens cDNA clone PLACE3000382 3'  |
| 10477            | 23123           | 36352          | 0.7               | 1.0E-35                              | BF889594.1  | EST_HUMAN               | read0606x1 NCI_CGAP_P728 Homo sapiens cDNA clone IMAGE-3254051 3' similar to TR-031341 C031341 BETA-GALACTOSIDASE;   |
| 10477            | 23123           | 36353          | 0.7               | 1.0E-35                              | BF889594.1  | EST_HUMAN               | read0606x1 NCI_CGAP_P728 Homo sapiens cDNA clone IMAGE-3254051 3' similar to TR-031341 C031341 BETA-GALACTOSIDASE;   |
| 111758           | 24349           | 37680          | 1.46              | 1.0E-35                              | AB028980.1  | NT                      | Homo sapiens mRNA for KIAA1057 protein, partial cds  |
| 111758           | 24349           | 37681          | 1.46              | 1.0E-35                              | AB028980.1  | NT                      | Homo sapiens mRNA for KIAA1057 protein, partial cds  |
| 111758           | 24359           |                | 1.91              | 1.0E-35                              | AI525119.1  | EST_HUMAN               | promtme-7-D01/r bwumor Homo sapiens cDNA 5'  |
| 111917           | 25313           |                | 1.37              | 1.0E-35                              | 11418274 NT   |                         | Homo sapiens fibulin 1 (FBNL1), mRNA   |
| 12121            | 24613           |                | 1.63              | 1.0E-35                              | 11418110 NT   |                         | Homo sapiens casein kinase 1 epsilon (CSNK1E), mRNA  |
| 12471            | 24837           |                | 2.13              | 1.0E-35                              | BE782832.1  | EST_HUMAN               | 601584833F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE-9838985 5'   |
| 9129             | 21817           | 34983          | 0.56              | 8.0E-36                              | AA348480.1  | EST_HUMAN               | EST54838 Hippocampus II Homo sapiens cDNA 5' and similar to endogenous retrovirus 9, 5 LTR   |
| 2831             | 15697           | 28344          | 1.1               | 7.0E-36                              | AW857579.1  | EST_HUMAN               | CM1-C10315-091288-063-d07 CT0315 Homo sapiens cDNA   |
| 3116             | 15881           |                | 3.84              | 7.0E-36                              | 4557498 NT  |                         | Homo sapiens C-terminal binding protein 2 (CTBP2) mRNA   |
| 7554             | 20224           | 33327          | 5.92              | 7.0E-36                              | U06872.1  | NT                      | Human carnoembryonic antigen gene family member 12 (CGM12) gene, exons L and LN  |
| 7554             | 20224           | 33328          | 5.92              | 7.0E-36                              | U06872.1  | NT                      | Human carnoembryonic antigen gene family member 12 (CGM12) gene, exons L and LN  |

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Table 4

Single Exon Probes Expressed In Brain

| Probe Seq ID No: | Exon Seq ID No: | ORF Seq ID No: | Expression Signal   | Most Similar (Top) BLAST E Value | Top Hit Accession No.   | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|---------------------|----------------------------------|---|--|--------------------|
| 1998             | 14734           | 27456          | 2                   | 6.0E-38                          | 7706622 NT  | Homo sapiens ninjurin 2 (NINJ2), mRNA  |                    |
| 2418             | 15139           | 658            | 6.0E-38 AB035346.1  | NT                               | Homo sapiens TCOL6 gene, exon 12  |  |                    |
| 36330            | 16383           | 28023          | 0.71                | 8.0E-38 BF515101.1               | EST_HUMAN   | UH-BW1-env-o-12-0-U1 s1 NCI_CGAP_Sub7 Homo sapiens cDNA clone IMAGE:3038542 3' ih8300 x1 Soares_NSF_F8_9W_OT_PA_P_S1 Homo sapiens cDNA clone IMAGE:2128196 3' similar to gb:M11949 PANCREATIC SECRETORY TRYPSIN INHIBITOR PRECURSOR (HUMAN); |                    |
| 5248             | 18054           | 30682          | 3.54                | 8.0E-38 AI435169.1               | EST_HUMAN   | gb:NM02121 NCI_CGAP_Cof14 Homo sapiens cDNA clone IMAGE:3036627 3' similar to SW:IMA2_HUMAN P62282 IMPORTIN ALPH4-2 SUBUNIT ;  |                    |
| 7009             | 19701           | 32758          | 3.57                | 8.0E-38 AW780143.1               | EST_HUMAN   | Homo sapiens synaptin precursor, mRNA, complete cds  |                    |
| 86560            | 21242           | 34385          | 2.33                | 8.0E-38 AF298161.1               | NT  | C16827 Clontech human aorta polya+ mRNA (#8572) Homo sapiens cDNA clone GEN-535C11 5'  |                    |
| 10125            | 22773           | 0.51           | 8.0E-36 C16827.1    | EST_HUMAN                        | I895c09.x1 NCI_CGAP_CLL1 Homo sapiens cDNA clone IMAGE:2107024 3' similar to contains MER9.b2 |  |                    |
| 11538            | 24138           | 37443          | 3.11                | 8.0E-38 AI380499.1               | EST_HUMAN   | MER9 repetitive element;   |                    |
| 134              | 12249           | 25592          | 10.74               | 6.0E-36 AJ271735.1               | NT  | Homo sapiens Xq pseudautosomal region, segment 1/2   |                    |
| 2755             | 15460           | 28202          | 5.75                | 8.0E-36 BE388436.1               | EST_HUMAN   | 601285687F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3607289 5'  |                    |
| 35989            | 16352           | 28991          | 1.45                | 5.0E-36 AL163208.2               | NT  | Homo sapiens chromosome 21, segment HS21C009   |                    |
| 4738             | 17468           | 30104          | 2.16                | 6.0E-38                          | 5728729 NT  | Homo sapiens AP15-like 1 (AP15L1), mRNA  |                    |
| 4738             | 17468           | 30105          | 2.15                | 6.0E-36                          | 5728729 NT  | Homo sapiens AP15-like 1 (AP15L1), mRNA  |                    |
| 7686             | 20350           | 32464          | 0.61                | 5.0E-38                          | 11078227 NT   | Homo sapiens N-ethylmaleimide-sensitive factor (NSF), mRNA   |                    |
| 11887            | 12849           | 26592          | 3.53                | 6.0E-36 AJ271735.1               | NT  | Homo sapiens Xq pseudautosomal region, segment 1/2   |                    |
| 12168            | 24650           | 31103          | 3.45                | 5.0E-36                          | 11417862 NT   | Homo sapiens calcineurin binding protein 1 (NLAA0390), mRNA  |                    |
| 12203            | 13095           | 26819          | 1.69                | 4.0E-36 RE010638.1               | EST_HUMAN   | PM3-BN0176-100400-001-904 BN0176 Homo sapiens cDNA   |                    |
| 1423             | 14170           | 26858          | 1.03                | 4.0E-36 P10298                   |   | RETRONVIRUS-RELATED POL POLYPROTEIN [CONTAINS: REVERSE TRANSCRIPTASE ; ENDONUCLEASE]   |                    |
| 1640             | 14388           | 27074          | 1.61                | 4.0E-36 BE382574.1               | EST_HUMAN   | 601288574F1 NIH_MGC_18 Homo sapiens cDNA clone IMAGE:3628398 5'  |                    |
| 2219             | 14947           | 2.13           | 4.0E-36 AW247772.1  | EST_HUMAN                        | 282020.5prime NIH_MGC_7 Homo sapiens cDNA clone IMAGE:282020 5'                               |  |                    |
| 3349             | 16108           | 28763          | 0.82                | 4.0E-36 BE389289.1               | EST_HUMAN   | 601282286F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3604168 5'  |                    |
| 3349             | 16108           | 28764          | 0.82                | 4.0E-36 BE389289.1               | EST_HUMAN   | 601282286F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3604168 5'  |                    |
| 66228            | 18425           | 0.84           | 4.0E-36 R64023.1    | EST_HUMAN                        | Y1805.r1 Soares placenta Nb2-1P Homo sapiens cDNA clone IMAGE:138713 5'                       |  |                    |
| 59894            | 18746           | 31707          | 2.33                | 4.0E-36                          | 11497041 NT   | Homo sapiens a disintegrin and metalloprotease domain 22 (ADAM22), transcript variant 3, mRNA  |                    |
| 75533            | 20223           | 33328          | 1.63                | 4.0E-36 M33320.1                 | NT  | Human platelet Glycoprotein IIb (GP1lib) gene, exons 2-23  |                    |
| 8453             | 21146           | 34285          | 1.62                | 4.0E-36 D87675.1                 | NT  | Homo sapiens DNA for amyloid precursor protein, complete cds   |                    |
| 8453             | 21145           | 34286          | 1.62                | 4.0E-36 D87675.1                 | NT  | Homo sapiens DNA for amyloid precursor protein, complete cds   |                    |
| 105900           | 23589           | 36835          | 2.84                | 4.0E-38 AA400370.1               | EST_HUMAN   | zg83c10.1 Soares testis cDNA clone IMAGE:743250 5'   |                    |
| 12163            | 24655           | 2.09           | 4.0E-36             | 11420516 NT                      |   | Homo sapiens nuclear factor of activated T-cells, cytoplasmic 2 (NFATC2), mRNA   |                    |
| 12227            | 25196           | 7.3            | 4.0E-36 AV763326.1` | EST_HUMAN                        | AV753628 TP Homo sapiens cDNA clone TPGBH101 5'   |  |                    |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO. | Exon SEQ ID NO. | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|--|
| 12798            | 25047           |                | 1.44              | 4.0E-36                          | D25217.2              | NT                      | Homo sapiens mRNA for KIAA0027 protein, partial cds  |
| 680              | 13455           | 26100          | 2.58              | 3.0E-36                          | AF098810.1            | NT                      | Homo sapiens neuromodulin-III-alpha gene, partial cds  |
| 1484             | 14231           | 26817          | 1.32              | 3.0E-36                          | AF110239.1            | NT                      | Homo sapiens calcium/calmodulin-stimulated cyclic nucleotide phosphodiesterase (PDE1A) gene, partial cds   |
| 1484             | 14231           | 26918          | 1.32              | 3.0E-36                          | AF110239.1            | NT                      | Homo sapiens calcium/calmodulin-stimulated cyclic nucleotide phosphodiesterase (PDE1A) gene, partial cds   |
| 2897             | 15022           | 27757          | 1.21              | 3.0E-36                          | 7862401               | NT                      | Homo sapiens KIAA0852 protein (KIAA0852), mRNA   |
| 4467             | 17203           | 28828          | 5.98              | 3.0E-36                          | 10181139              | NT                      | Mus musculus junctophilin 1 (Jip1-pending), mRNA   |
| 11050            | 23720           | 36891          | 1.59              | 3.0E-36                          | BFO35327.1            | EST_HUMAN               | 601465331F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:38862086 5'   |
| 3167             | 15630           | 28579          | 2.38              | 2.0E-36                          | BE259237.1            | EST_HUMAN               | 601106343F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3342706 5'  |
| 4904             | 17631           | 30246          | 6.45              | 2.0E-36                          | AW880378.1            | EST_HUMAN               | QV0-O-T0030-240300-174-H04 O10030 Homo sapiens cDNA  |
| 5398             | 18198           | 30892          | 3.1               | 2.0E-36                          | AF267747.1            | NT                      | Mus musculus p47-phox gene, complete cds   |
| 6788             | 18550           | 31471          | 3.95              | 2.0E-36                          | T08758.1              | EST_HUMAN               | EST08848 Infant Brain, Bento Scars Homo sapiens cDNA clone HIBBj28 5' end  |
| 6491             | 18248           | 32248          | 12.22             | 2.0E-36                          | T868620.1             | EST_HUMAN               | yc44a07..r1 Strategene liver (R837224) Homo sapiens cDNA clone IMAGE:835058 5'   |
| 9288             | 21955           | 35126          | 1.07              | 2.0E-36                          | BF512794.1            | EST_HUMAN               | UH-BW1-amu-e-11-0-U1..s1 NCI_CGAP Sub7 Homo sapiens cDNA clone IMAGE:3071132 3'  |
| 9449             | 21889           | 35172          | 0.79              | 2.0E-36                          | 4507848               | NT                      | Homo sapiens ubiquitin specific protease 13 (isopeptidase T-3) (USP13) mRNA  |
| 9449             | 21889           | 35173          | 0.79              | 2.0E-36                          | 4507848               | NT                      | Homo sapiens ubiquitin specific protease 13 (isopeptidase T-3) (USP13) mRNA  |
| 8865             | 13634           | 26304          | 1.81              | 1.0E-36                          | BE4098310.1           | EST_HUMAN               | 601300838F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3835480 5'  |
| 2141             | 14871           | 27803          | 1                 | 1.0E-36                          | BE146523.1            | EST_HUMAN               | RC1-HT0217-131189-021-H07 HT0217 Homo sapiens cDNA   |
| 2141             | 14871           | 27804          | 1                 | 1.0E-36                          | BE146523.1            | EST_HUMAN               | RC1-HT0217-131189-021-H07 HT0217 Homo sapiens cDNA   |
| 2189             | 14928           | 27884          | 1.35              | 1.0E-36                          | BF0573761.1           | EST_HUMAN               | 6021386483F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE:4272888 5'   |
| 3339             | 16059           | 31659          | 1.16              | 1.0E-36                          | AF156862.1            | NT                      | Homo sapiens human endogenous retrovirus W proC8-19 protease (pro) gene, partial cds   |
| 5610             | 18569           | 31627          | 1.28              | 1.0E-36                          | 4827084               | NT                      | Homo sapiens zinc finger protein 147 (estrogen-responsive finger protein) (ZNF147) mRNA  |
| 6090             | 18868           |                | 4.19              | 1.0E-36                          | AI887714.1            | EST_HUMAN               | wb37c12.x1 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE:2307882 3' similar to wbs37c12.x1 repetitive element                                       |
| 6293             | 19068           | 32052          | 1.21              | 1.0E-36                          | R25012.1              | EST_HUMAN               | yg38g10..r1 Soares Infant brain 1NIB Homo sapiens cDNA clone IMAGE:34529 5' similar to SP-CAHP HUMAN P53219 CARBONIC ANHYDRASE-RELATED PROTEIN ; |
| 6298             | 19069           | 32053          | 1.21              | 1.0E-36                          | R25012.1              | EST_HUMAN               | yg38g10..r1 Soares Infant brain 1NIB Homo sapiens cDNA clone IMAGE:34529 5' similar to SP-CAHP HUMAN P53219 CARBONIC ANHYDRASE-RELATED PROTEIN ; |
| 6582             | 18345           | 32359          | 0.73              | 1.0E-36                          | AL120542.1            | EST_HUMAN               | DKFZp761A228..r1 761 (synonym: harm2) Homo sapiens cDNA clone IMAGE:34529 5'   |
| 7328             | 20009           | 33087          | 0.85              | 1.0E-36                          | 11426108              | NT                      | Homo sapiens a disintegrin and metalloproteinase domain 11 (ADAM11), mRNA  |
| 7328             | 20009           | 33088          | 0.85              | 1.0E-36                          | 11426108              | NT                      | Homo sapiens a disintegrin and metalloproteinase domain 11 (ADAM11), mRNA  |
| 7860             | 20555           | 33679          | 6.13              | 1.0E-36                          | AA148034.1            | EST_HUMAN               | 2051812..r1 Strategene endothelial cell 83T223 Homo sapiens cDNA clone IMAGE:590398 5'   |
| 7860             | 20555           | 33680          | 5.13              | 1.0E-36                          | AA148034.1            | EST_HUMAN               | 2051812..r1 Strategene endothelial cell 83T223 Homo sapiens cDNA clone IMAGE:590398 5'   |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe Seq ID No: | Exon seq ID No: | ORF seq ID No: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor  |  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|---|---|--|
| 7852             | 20847           | 33770          | 1.34              | 1.0E-38                              | AA420467.1            | EST_HUMAN   | nc60e08.1 NCI_CGAP_Pt1 Homo sapiens cDNA clone IMAGE:745670   |  |
| 7852             | 20847           | 33771          | 1.34              | 1.0E-38                              | AA420467.1            | EST_HUMAN   | nc60e08.1 NCI_CGAP_Pt1 Homo sapiens cDNA clone IMAGE:745670   |  |
| 8079             | 20773           | 33892          | 0.61              | 1.0E-36                              | AU141688.1            | EST_HUMAN   | AU141688 THYRO1 Homo sapiens cDNA clone THYRO1001033 6'   |  |
| 8079             | 20773           | 33893          | 0.61              | 1.0E-36                              | AU141688.1            | EST_HUMAN   | AU141688 THYRO1 Homo sapiens cDNA clone THYRO1001033 5'   |  |
| 8927             | 21618           | 34782          | 2.71              | 1.0E-38                              | AW103658.1            | EST_HUMAN   | xs82607.2 NCI_CGAP_Bm35 Homo sapiens cDNA clone IMAGE:2614357 3'  |  |
| 10014            | 22882           | 35878          | 3.88              | 1.0E-38                              | BF384168.1            | EST_HUMAN   | QV3-NN1023-010630-189-h01 NN1023 Homo sapiens cDNA  |  |
| 10226            | 22874           | 36098          | 0.56              | 1.0E-38                              | AW858688.1            | EST_HUMAN   | RC3-CT0279-040500-017-a10 GT0279 Homo sapiens cDNA  |  |
| 108867           | 23547           | 36785          | 3.3               | 1.0E-38                              | AW897638.1            | EST_HUMAN   | RC3-CT0279-040500-017-a10 GT0279 Homo sapiens cDNA  |  |
| 11354            | 24644           | 37347          | 4.17              | 1.0E-38                              | AW504149.1            | EST_HUMAN   | CW3-NN0061-140400-147-h12 NN0061 Homo sapiens cDNA  |  |
| 11393            | 23698           | 37302          | 1.45              | 1.0E-38                              | AJ905538.1            | EST_HUMAN   | UHF-BN0-els-c-03-0-JI_r1 NIH_MCC_50 Homo sapiens cDNA clone IMAGE:3079277 5'  |  |
| 11393            | 23698           | 37303          | 1.45              | 1.0E-38                              | AJ905538.1            | EST_HUMAN   | RC-BT091-210199-110 BT091 Homo sapiens cDNA   |  |
| 12060            | 24576           | 381            | 1.0E-38           | 11418177                             | NT                    | Hom sapiens Ran GTPase activating protein 1 (RANGAP1), mRNA                         |   |  |
| 12501            | 24855           | 303            | 1.0E-38           | AL163213.2                           | NT                    | Hom sapiens chromosome 21 segment HS21 C013   |   |  |
| 12747            | 25011           | 323            | 1.0E-38           | AF202723.1                           | NT                    | Hom sapiens Sad1 uno-84 domain protein 2 (SUN2) mRNA, partial cds                   |   |  |
| 7281             | 18895           | 33042          | 2.12              | 9.0E-37                              | AW009277.1            | EST_HUMAN   | ws80b07_x1 NCI_CGAP_Co3 Homo sapiens cDNA clone IMAGE:2504245 3'  |  |
| 7281             | 18895           | 33043          | 2.12              | 9.0E-37                              | AW009277.1            | EST_HUMAN   | ws80b07_x1 NCI_CGAP_Co3 Homo sapiens cDNA clone IMAGE:2504245 3'  |  |
| 12308            | 24733           | 135            | 9.0E-37           | W22618.1                             | EST_HUMAN             | 73D4 Human retina cDNA Tsp509I-cleaved sublibrary/Homo sapiens cDNA not directional |   |  |
| 3350             | 16108           | 28765          | 0.98              | 8.0E-37                              | 4757979               | NT  | Hom sapiens chimerin (chimerin) 2 (CHN2) mRNA   |  |
| 5168             | 17977           | 158            | 8.0E-37           | BE688677.1                           | EST_HUMAN             | CM0-LUT003-050800-503-d09 UT0003 Homo sapiens cDNA                                  |   |  |
| 5738             | 18530           | 31451          | 3.75              | 8.0E-37                              | BE350127.1            | EST_HUMAN   | H09g01_x1 NCI_CGAP_Kid13 Homo sapiens cDNA clone IMAGE:3146258 3' similar to contains MER29_L3                          |  |
| 6738             | 18530           | 31452          | 3.75              | 8.0E-37                              | BE350127.1            | EST_HUMAN   | H09g01_x1 NCI_CGAP_Kid13 Homo sapiens cDNA clone IMAGE:3146258 3' similar to contains MER29_L3                          |  |
| 6787             | 18578           | 31507          | 8.24              | 8.0E-37                              | AW840840.1            | EST_HUMAN   | H09g01_x1 NCI_CGAP_Kid13 Homo sapiens cDNA clone IMAGE:3146258 3' similar to contains MER29_L3                          |  |
| 7784             | 20479           | 33604          | 6.22              | 8.0E-37                              | X87344.1              | NT  | DKFZp434E0422_11434 (synonym: htes2) Homo sapiens cDNA clone DKFZp434E0422 5'   |  |
| 1262             | 14011           | 3.03           | 7.0E-37           | AL042890.1                           | EST_HUMAN             |   |   |  |
| 1738             | 14480           | 27179          | 0.97              | 7.0E-37                              | AF111167.2            | NT  | Hom sapiens Jun dimerization protein gene, partial cds; cfos gene, complete cds; and unknown gene                       |  |
| 1738             | 14480           | 27180          | 0.97              | 7.0E-37                              | AF111167.2            | NT  | Hom sapiens Jun dimerization protein gene, partial cds; cfos gene, complete cds; and unknown gene                       |  |
| 10657            | 23348           | 36585          | 8.69              | 7.0E-37                              | AB17700.1             | EST_HUMAN   | wk23011_x1 NCI_CGAP_Bm25 Homo sapiens cDNA clone IMAGE:2413341 3' similar to contains FTR5_L2; PTR5 repetitive element; |  |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exam SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|--|
|                  |                 |                |                   |                                      |                       |                         |   |  |
| 10811            | 23494           | 36729          | 2.25              | 7.0E-37                              | AI536702.1            | EST_HUMAN               | IMAGE:2165140 3' similar to contains L1,b3 L1 repetitive element;   |  |
| 8388             | 21031           | 341683         | 1.34              | 6.0E-37                              | AF168689.1            | NT                      | Homo sapiens protocadherin alpha 10 alternate isoform (PCDH-alpha10) mRNA, complete cds   |  |
| 12624            | 24929           |                | 2.84              | 6.0E-37                              | AF262723.1            | NT                      | Homo sapiens Sod1 una-84 domain protein 2 (SUN2) mRNA, partial cds  |  |
| 6002             | 18783           | 31744          | 3.9               | 5.0E-37                              | AA307123.1            | EST_HUMAN               | EST:178035 Colon carcinoma (HCC) cell line Homo sapiens cDNA 5' end   |  |
| 6002             | 18783           | 31746          | 3.9               | 5.0E-37                              | AA307123.1            | EST_HUMAN               | EST:178035 Colon carcinoma (HCC) cell line Homo sapiens cDNA 5' end   |  |
| 8854             | 21348           | 34490          | 0.9               | 5.0E-37                              | AV750211.1            | EST_HUMAN               | AV750211 NPC Homo sapiens cDNA clone NPCBIGH08 5'   |  |
| 10837            | 23519           |                | 4                 | 5.0E-37                              | 7657117               | NT                      | Homo sapiens glycine C-acetyltransferase (2-amino-3-ketobutyrate-CoA lyase) (GCAT), mRNA  |  |
| 120665           | 24672           |                | 6.86              | 5.0E-37                              | AF148773.1            | NT                      | Homo sapiens NOD1 protein (NOD1) gene, exons 1, 2, and 3  |  |
| 2423             | 15144           | 27877          | 2.12              | 4.0E-37                              | AA702794.1            | EST_HUMAN               | 2180604.s1 Soares_fetal_liver_spleen_1NFSL_S1 Homo sapiens cDNA clone IMAGE:4480153   |  |
| 6194             | 18970           | 31945          | 0.61              | 4.0E-37                              | AW784502.1            | EST_HUMAN               | RC8-UM0014-2/10200-021+H05 UM0014 Homo sapiens cDNA   |  |
| 8258             | 21935           | 35109          | 0.74              | 4.0E-37                              | AA843808.1            | EST_HUMAN               | ak08c02.s1 Soares_parallel_fetal_tumor_NbHPA Homo sapiens cDNA clone IMAGE:14054423'  |  |
| 2010             | 14745           | 27472          | 3.2               | 3.0E-37                              | AL048958.1            | EST_HUMAN               | DKFZp734L2418_1 434 (synonym: hhs3) Homo sapiens cDNA clone DKFZp434L2418   |  |
| 2010             | 14745           | 27473          | 3.2               | 3.0E-37                              | AL048958.1            | EST_HUMAN               | DKFZp734L2418_1 434 (synonym: hhs3) Homo sapiens cDNA clone DKFZp434L2418   |  |
| 2865             | 15731           |                | 3.15              | 3.0E-37                              | AW881150.1            | EST_HUMAN               | EST:373222 MAGE sequences, MAGF Homo sapiens cDNA   |  |
| 5774             | 18565           | 31494          | 0.92              | 3.0E-37                              | AL138274.1            | EST_HUMAN               | DKFZp547G067_1 547 (synonym: hfr1) Homo sapiens cDNA clone DKFZp547G067 5'  |  |
| 7455             | 20128           | 33221          | 0.71              | 3.0E-37                              | AI7488952.1           | EST_HUMAN               | at34c05.x1 Bersteini codon HPLRB7 Homo sapiens cDNA clone IMAGE:2373898 3' similar to TR-Q13537 Q13537 SIMILAR TO POGO ELEMENT.;      |  |
| 372              | 13197           | 25842          | 0.68              | 2.0E-37                              | D89790.1              | NT                      | Homo sapiens mRNA for AML1, complete cds  |  |
| 372              | 13197           | 25843          | 0.68              | 2.0E-37                              | D89790.1              | NT                      | Homo sapiens mRNA for AML1, complete cds  |  |
| 1053             | 13816           | 28477          | 2.64              | 2.0E-37                              | AU131202.1            | EST_HUMAN               | AU131202 NT2RP3 Homo sapiens cDNA clone NT2RP3002166 5'   |  |
| 1053             | 13816           | 28478          | 2.64              | 2.0E-37                              | AU131202.1            | EST_HUMAN               | AU131202 NT2RP3 Homo sapiens cDNA clone NT2RP3002166 5'   |  |
| 1953             | 14692           | 27405          | 1.67              | 2.0E-37                              | AL168247.2            | NT                      | Homo sapiens chromosome 21 segment HS21C047   |  |
| 3873             | 16823           | 29281          | 4.78              | 2.0E-37                              | 4503210               | NT                      | Homo sapiens cytochrome P450, subfamily XXVIIA (steroid 27-hydroxylase, cerebroendocrine xanthomatosis), polypeptide 1 (CYP27A1) mRNA |  |
| 4968             | 17693           |                | 0.93              | 2.0E-37                              | AL168284.2            | NT                      | Homo sapiens chromosome 21 segment HS21C084   |  |
| 5304             | 18109           |                | 0.66              | 2.0E-37                              | BF035327.1            | EST_HUMAN               | 601458531F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:39562098 5'  |  |
| 6561             | 19328           | 32333          | 3.46              | 2.0E-37                              | AA345720.1            | EST_HUMAN               | EST52831 Fetal heart II Homo sapiens cDNA 5' end  |  |
| 7895             | 20590           | 33720          | 0.46              | 2.0E-37                              | BE537764.1            | EST_HUMAN               | 601087534F1 NIH_MGC_10 Homo sapiens cDNA clone IMAGE:3453657 5'   |  |
| 7895             | 20590           | 33721          | 0.46              | 2.0E-37                              | BE537764.1            | EST_HUMAN               | 601087534F1 NIH_MGC_10 Homo sapiens cDNA clone IMAGE:3453657 5'   |  |
| 7937             | 20632           | 33759          | 2.88              | 2.0E-37                              | BF204032.1            | EST_HUMAN               | 6018689157F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:4111406 5'  |  |
| 11549            | 24148           | 37459          | 11.22             | 2.0E-37                              | AF176013.1            | NT                      | Homo sapiens J domain containing protein 1 isoform b (JDP1) mRNA, complete cds  |  |
| 12784            | 25037           |                | 3.54              | 2.0E-37                              | 11417872              | NT                      | Homo sapiens pescefilo (zebrafish) homolog 1, containing BRCT domain (PES1), mRNA   |  |
| 2081             | 14813           | 27546          | 4.93              | 1.0E-37                              | AL168281.2            | NT                      | Homo sapiens chromosome 21 segment HS21C081   |  |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No.                | Top Hit Database Source   | Top Hit Descriptor        |
|------------------|-----------------|----------------|-------------------|----------------------------|--------------------------------------|---|---------------------------|
| S192             | 15955           |                |                   | 1.08                       | EST_HUMAN AW862082.1                 | RC3-CT0347-210400-016-h03   | CT0347 Human sapiens cDNA |
| 3943             | 16893           | 28332          |                   | 0.72                       | EST_HUMAN AF189011.1                 | Homo sapiens ribonuclease III (RN3) mRNA, complete cds  |                           |
| 4888             | 17615           | 30234          |                   | 2.35                       | EST_HUMAN BF371719.1                 | QVO-FN0180-280700-318-c10 FN0180 Human sapiens cDNA   |                           |
| 6914             | 18699           |                |                   | 0.94                       | EST_HUMAN 7305360                    | Mus musculus otogelin (Otg9), mRNA  |                           |
| 8113             | 20807           | 33949          |                   | 1.25                       | EST_HUMAN BE546032.1                 | 601072418F1 NIH_MGC_12 Human sapiens cDNA clone IMAGE:3458308.5                                   |                           |
| 8634             | 21326           | 34468          |                   | 2.57                       | EST_HUMAN AA171408.1                 | #216027-1 Strategene neuroepithelium (#887231) Human sapiens cDNA clone IMAGE:610059.5 similar to |                           |
| 10597            | 22291           | 36529          |                   | 2.98                       | EST_HUMAN M22878.1                   | contains L1.12 L1 repetitive element;   |                           |
| 12363            | 24768           |                |                   | 2.81                       | EST_HUMAN BE771814.1                 | Human somatic cytochrome c (HC1) processed pseudogenes, complete cds                              |                           |
| 6680             | 18483           | 31402          |                   | 2                          | EST_HUMAN 10048462                   | CMS-FT0096-140700-243-d07 FT0096 Human sapiens cDNA   |                           |
| 1200             | 13952           | 26816          |                   | 2.02                       | EST_HUMAN 11486955                   | Rattus norvegicus multifoliate presynaptic cytoskeletal protein Piccolo (LOC58768), mRNA          |                           |
| 2502             | 15218           | 27962          |                   | 1.8                        | EST_HUMAN 602018401F1 NCI_CCGAP_Bm67 | Human sapiens cDNA clone IMAGE:4153982.5  |                           |
| 12420            | 13952           | 28616          |                   | 1.8                        | EST_HUMAN 11438955                   | Human sapiens Grb2-associated binder 2 (KIAA0571), mRNA   |                           |
| 4197             | 16838           | 28563          |                   | 0.73                       | EST_HUMAN H19082.1                   | yf5107.71 Scores adult brain N2b5HB55Y Human sapiens cDNA clone IMAGE:171973.5                    |                           |
| 6039             | 17758           |                |                   | 1.31                       | EST_HUMAN AF287283.1                 | Mus musculus ATP-binding cassette 1, sub-family A, member 1 (Abca1) gene, complete cds            |                           |
| 3037             | 15953           | 28450          |                   | 1.2                        | EST_HUMAN Bf035033.1                 | Grb2-associated binder 1 NIH_MGC_68 Human sapiens cDNA clone IMAGE:3868948.5                      |                           |
| 6502             | 16800           | 31189          |                   | 1.8                        | EST_HUMAN 11425114                   | Human sapiens zinc finger protein ZNF287 (ZNF287), mRNA   |                           |
| 6502             | 16800           | 31200          |                   | 1.8                        | EST_HUMAN 11425114                   | Human sapiens zinc finger protein ZNF287 (ZNF287), mRNA   |                           |
| 7228             | 18913           | 32988          |                   | 0.57                       | EST_HUMAN 8923130                    | Human sapiens hypothetical protein FLJ20128 (FLJ20128), mRNA                                      |                           |
| 11818            | 24480           | 24767          |                   | 2.57                       | EST_HUMAN 11425947                   | Human sapiens chromosome 12 open reading frame 3 (C12orf3), mRNA                                  |                           |
| 12395            | 24783           | 31038          |                   | 12.79                      | EST_HUMAN AB002058.1                 | Human sapiens DNA for Human P2X3, complete cds  |                           |
| 12767            | 25161           | 30900          |                   | 1.7                        | EST_HUMAN 11418184                   | Human sapiens adenylylucleotide hyase (ADSL), mRNA  |                           |
| 710              | 13484           | 28133          |                   | 1.38                       | EST_HUMAN EST383908                  | MAGE sequences, MAGE Human sapiens cDNA   |                           |
| 2455             | 15173           | 27912          |                   | 0.99                       | EST_HUMAN AW971810.1                 | EST variant 2, mRNA   |                           |
| 3849             | 16446           | 29086          |                   | 0.85                       | EST_HUMAN 7548804                    | Human sapiens deiodinase, iodothyronine, type II (DIO2), transcript variant 2, mRNA               |                           |
| 3917             | 16887           | 28307          |                   | 0.92                       | EST_HUMAN T83107.1                   | y440h07.1 Scores fetal liver spleen 1NFLS Human sapiens cDNA clone IMAGE:110749.5 similar to      |                           |
| 3917             | 16887           | 28308          |                   | 0.92                       | EST_HUMAN T83107.1                   | SP:OLF3_MOUSE P23275 OLFACTORY RECEPTOR :   |                           |
| 6930             | 19868           | 32712          |                   | 1.48                       | EST_HUMAN BE871810.1                 | SP:OLF3_MOUSE P23275 OLFACTORY RECEPTOR :   |                           |
| 116              | 12936           | 25575          |                   | 4.59                       | EST_HUMAN 2254681                    | 601450148F1 NIH_MGC_65 Human sapiens cDNA clone IMAGE:3854074.5                                   |                           |
| 116              | 12936           | 25576          |                   | 4.59                       | EST_HUMAN 2254681                    | B_taurus mitochondrial aspartate aminotransferase mRNA, complete cds                              |                           |
| 2093             | 14824           |                |                   | 5.25                       | EST_HUMAN AF0038530.1                | B_taurus mitochondrial aspartate aminotransferase mRNA, complete cds                              |                           |
| 3684             | 18437           |                |                   | 2.19                       | EST_HUMAN 7548807                    | Human sapiens homeobox protein CDX4 (CDX4) gene, complete cds and flanking repeat regions         |                           |
|                  |                 |                |                   |                            | NT                                   | Homologous Human interacting protein 4 (dnal-like) (HIRIP4), mRNA                                 |                           |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 3936             | 16587           | 29224          | 1.76              | 3.0E-38                              | P53538                | SWISSPROT               | SSU72 PROTEIN   |
| 3936             | 16587           | 29225          | 1.76              | 3.0E-38                              | P53538                | SWISSPROT               | SSU72 PROTEIN   |
| 4574             | 17309           |                | 1.47              | 3.0E-38                              | BE2798401.1           | EST_HUMAN               | 60115763F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3504272 5'  |
| 6855             | 25097           | 32430          | 8.11              | 3.0E-38                              | AL1683010.2           | NT                      | Homo sapiens chromosome 21 segment HS21C100   |
| 7144             | 19831           | 32800          | 0.68              | 3.0E-38                              | AW302481.1            | EST_HUMAN               | xw0401x1 NCI_CGAP_Bm53 Homo sapiens cDNA clone IMAGE:2827009 3'   |
| 7488             | 20160           | 33252          | 8.28              | 3.0E-38                              | BF3753684.1           | EST_HUMAN               | Cm8-F70161-14070-241-87 FT0181 Homo sapiens cDNA  |
| 8548             | 21240           | 34383          | 2.1               | 3.0E-38                              | H85494.1              | EST_HUMAN               | yw88b04_r1 Soares melanocyte 2N1bIM Homo sapiens cDNA clone IMAGE:249775 5'   |
| 8548             | 21240           | 34384          | 2.1               | 3.0E-38                              | H85494.1              | EST_HUMAN               | yw88b04_r1 Soares melanocyte 2N1bIM Homo sapiens cDNA clone IMAGE:249775 5'   |
| 9872             | 22522           |                | 2.24              | 3.0E-38                              | AL1683248.2           | NT                      | Homo sapiens chromosome 21 segment HS21C048   |
| 12830            | 17898           | 30488          | 1.65              | 3.0E-38                              | 11435847              | NT                      | Homo sapiens chromosome 12 open reading frame 3 (C12ORF3), mRNA   |
| 49               | 12878           | 25504          | 1.4               | 2.0E-38                              | AL1683248.2           | NT                      | Homo sapiens chromosome 21 segment HS21C048   |
| 1358             | 14106           | 26781          | 2.89              | 2.0E-38                              | 5802087               | NT                      | Homo sapiens ShMT3 (suppressor of mif two 3, yeast) homolog 2 (SMT3H2), mRNA  |
| 1641             | 14387           | 27076          | 2.21              | 2.0E-38                              | AA437383.1            | EST_HUMAN               | zw30001_r1 Soares ovary tumor NbHOT Homo sapiens cDNA clone IMAGE:770785 5' similar to SW:MA12_RABIT P45701 MANNOSYL-OGLICOSACCHARIDE ALPHA-1-2-MANNOSIDASE ; |
| 1641             | 14387           | 27076          | 2.21              | 2.0E-38                              | AA437383.1            | EST_HUMAN               | zw30001_r1 Soares ovary tumor NbHOT Homo sapiens cDNA clone IMAGE:770785 5' similar to SW:MA12_RABIT P45701 MANNOSYL-OGLICOSACCHARIDE ALPHA-1-2-MANNOSIDASE ; |
| 2408             | 16729           | 27885          | 1.45              | 2.0E-38                              | W76571.1              | EST_HUMAN               | zb68609_r1 Soares ovary tumor NbHOT Homo sapiens cDNA clone IMAGE:345864 5'   |
| 5632             | 18427           | 31339          | 0.69              | 2.0E-38                              | Z266334.2             | NT                      | Homo sapiens mRNA for enlyzin B (440 kDa)   |
| 5632             | 18427           | 31340          | 0.69              | 2.0E-38                              | Z266334.2             | NT                      | Homo sapiens mRNA for enlyzin B (440 kDa)   |
| 7619             | 20285           | 33395          | 1.46              | 2.0E-38                              | AV721103.1            | EST_HUMAN               | AV721103 HTB Homo sapiens cDNA clone HTBARTH11 5'   |
| 8882             | 21075           |                | 4.38              | 2.0E-38                              | BE1-65980.1           | EST_HUMAN               | MR3-HT0487-150200-113-801 HT10487 Homo sapiens cDNA   |
| 8793             | 21485           | 34631          | 0.89              | 2.0E-38                              | FD08450.1             | EST_HUMAN               | HSC18F031 normalized infant brain cDNA Homo sapiens cDNA clone c-18F03  |
| 8884             | 21555           | 34700          | 2.04              | 2.0E-38                              | AF069755.1            | NT                      | Homo sapiens orphan G protein-coupled receptor HG20 (HG20) mRNA, complete cds   |
| 9121             | 21809           |                | 1.08              | 2.0E-38                              | BE222258.1            | EST_HUMAN               | hu08g02x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3168130 3' similar to TR:002710_O02Z710   |
| 10346            | 22883           | 36212          | 1.71              | 2.0E-38                              | DE83478.2             | NT                      | Homo sapiens mRNA for KIAA0145 protein, partial cds   |
| 11200            | 23865           | 37151          | 1.37              | 2.0E-38                              | AA565480.1            | EST_HUMAN               | no34g03_s1 NCI_CGAP_P723 Homo sapiens cDNA clone IMAGE:1102612 3' similar to TR:E212316   |
| 11200            | 23865           | 37152          | 1.37              | 2.0E-38                              | AA565480.1            | EST_HUMAN               | no34g03_s1 NCI_CGAP_P723 Homo sapiens cDNA clone IMAGE:1102612 3' similar to TR:E212316   |
| 11472            | 24073           | 37382          | 5.79              | 2.0E-38                              | BE12790.1             | EST_HUMAN               | E212316 NADP DEPENDENT LEUKOTREINE B4 12-HYDROXYDEHYDROGENASE ;   |
| 11538            | 24235           | 37567          | 3.52              | 2.0E-38                              | AF190501.1            | NT                      | QV2-HT0698-080800-283-805 HT0698 Homo sapiens cDNA  |
|                  |                 |                |                   |                                      |                       |                         | Homo sapiens leucine-rich repeat-containing G protein-coupled receptor 6 (LGR6) mRNA, partial cds   |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe Seq ID No: | Exon No: | ORF Seq ID No: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|----------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 11638            | 24235    | 37568          | 3.52              | 2.0E-38                              | AF190501.1            | NT                      | Homo sapiens leucine-rich repeat-containing G protein-coupled receptor 6 (LGR6) mRNA, partial cds                            |
| 11971            | 24517    |                | 3.05              | 2.0E-38                              | AV726988.1            | EST_HUMAN               | AV726988 HTCHomo sapiens cDNA clone HTCAAXH07 5'   |
| 11973            | 24518    |                | 2.08              | 2.0E-38                              | AB012723.1            | NT                      | Homo sapiens gene for kinase-like protein, complete cds  |
| 12280            | 24705    | 31081          | 6.45              | 2.0E-38                              | H55641.1              | EST_HUMAN               | CHR220580 Chromosome 22 exon Homo sapiens cDNA clone C22_788 5'  |
| 12323            | 24742    |                | 1.43              | 2.0E-38                              | ST74906.1             | NT                      | E1 beta=pyruvate dehydrogenase beta (promoter) [human, placenta, genomic, 1280 nt]   |
| 12777            | 25031    |                | 3.78              | 2.0E-38                              | 11418248              | NT                      | Homo sapiens sulfotransferase-related protein (SULTX3), mRNA   |
| 1071             | 13829    |                | 2.55              | 1.0E-38                              | AA401570.1            | EST_HUMAN               | zu62802.51 Scores_ testis_NHT Homo sapiens cDNA clone IMAGE_742539 5' similar to contains element MIER19 repetitive element; |
| 1892             | 14728    | 27450          | 2.53              | 1.0E-38                              | 4885298               | NT                      | Homo sapiens glutamine nucleotide binding protein-like 1 (GNL1), mRNA  |
| 2012             | 14747    | 27476          | 1.11              | 1.0E-38                              | 7661969               | NT                      | Homo sapiens KIAA01173 gene product (KIAA01173), mRNA  |
| 2469             | 15216    | 27950          | 2.34              | 1.0E-38                              | AF270821.1            | NT                      | Homo sapiens cyclin K (CCNAK) gene, exon 7   |
| 4250             | 17029    | 28655          | 1.23              | 1.0E-38                              | AL168208.2            | NT                      | Homo sapiens chromosome 21 segment HS21C003  |
| 4280             | 17029    | 28656          | 1.23              | 1.0E-38                              | AL168208.2            | NT                      | Homo sapiens chromosome 21 segment HS21C003  |
| 4558             | 17283    | 28921          | 1                 | 1.0E-38                              | 8822543               | NT                      | Homo sapiens hypothetical protein FLJ10600 (FLJ10600), mRNA  |
| 5837             | 18719    | 31677          | 4.71              | 1.0E-38                              | 7305380               | NT                      | Mus musculus otogelin (Otg), mRNA  |
| 5837             | 18719    | 31678          | 4.71              | 1.0E-38                              | 7305380               | NT                      | Mus musculus otogelin (Otg), mRNA  |
| 7304             | 18987    | 33063          | 3.16              | 1.0E-38                              | AB014512.1            | NT                      | Homo sapiens mRNA for KIAA0612 protein, partial cds  |
| 8051             | 21740    | 34698          | 0.71              | 1.0E-38                              | 11422250              | NT                      | Homo sapiens hypothetical protein FLJ10600 (FLJ10600), mRNA  |
| 8310             | 21977    | 35150          | 5.13              | 1.0E-38                              | BE350127.1            | EST_HUMAN               | hit03g01.1 NCI_CGAP_Kid13 Homo sapiens cDNA clone IMAGE_3146258 3' similar to contains MER29 ls3 MER29 repetitive element;   |
| 10301            | 22948    | 36163          | 0.58              | 1.0E-38                              | R18512.1              | EST_HUMAN               | yf86s08.51 Scores_ infant brain 1NB Homo sapiens cDNA clone IMAGE_304683 5'  |
| 11583            | 24187    | 37503          | 1.28              | 1.0E-38                              | 7682109               | NT                      | Homo sapiens KIAA0426 gene product (KIAA0426), mRNA  |
| 12118            | 25140    |                | 2.2               | 1.0E-38                              | AL163284.2            | NT                      | Homo sapiens chromosome 21 segment HS21C084  |
| 53               | 12882    | 25510          | 15.3              | 8.0E-39                              | 4502312               | NT                      | Homo sapiens ATPase H+ transporting, lysosomal vacuolar proton pump 16kD (ATP6C) mRNA  |
| 1373             | 14121    | 28796          | 1.45              | 8.0E-39                              | 4758226               | NT                      | Homo sapiens estrogen receptor-binding fragment-associated gene 9 (EBAG9) mRNA   |
| 1821             | 14580    |                | 1.27              | 8.0E-39                              | A1822404.1            | EST_HUMAN               | wts3f10.x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE_2394461 3' similar to TR-P87890 F87890 POL PROTEIN;                  |
| 2087             | 14819    | 27550          | 5.78              | 7.0E-39                              | AL163227.2            | NT                      | Homo sapiens chromosome 21 segment HS21C027  |
| 10711            | 23400    | 36639          | 2.24              | 6.0E-39                              | BF331829.1            | EST_HUMAN               | QV1-BT0831-040800-557-f02 BT0831 Homo sapiens cDNA   |
| 12398            | 24979    |                | 1.66              | 6.0E-39                              | BE670394.1            | EST_HUMAN               | 7634cd8.x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone CE00828;  |
| 887              | 13750    | 28412          | 1.57              | 5.0E-39                              | AF003528.1            | NT                      | Homo sapiens X-linked arthriotic ectodermal dysplasia protein gene (EDA), exon 2 and flanking repeat regions                 |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 2984             | 15750           | 28397          | 8.62              | 5.0E-39                              | AI750154.1            | EST_HUMAN               | ai36804_x1 Barstead colon HPLRB7 Homo sapiens cDNA clone IMAGE:2374063 3' similar to TRQ15408   |
| 12410            | 24703           |                | 2.04              | 5.0E-39                              | 11420289              | NT                      | Q15408 NEUTRAL PROTEASE LARGE SUBUNIT ;contains LTR7_11 LTR7 repetitive element ; Homo sapiens hypothetical protein FLJ10803 (FLJ10803), mRNA     |
| 537              | 13320           | 25954          | 6.78              | 4.0E-39                              | AB016810.1            | NT                      | Chlorocebus aethiops mRNA for ribosomal protein S4X, complete cds   |
| 3559             | 16314           | 28961          | 0.87              | 4.0E-39                              | AL163210.2            | NT                      | Homo sapiens chromosome 21 segment HS21C2010  |
| 7974             | 20669           | 33791          | 1.27              | 4.0E-39                              | AA682949.1            | EST_HUMAN               | aa29204_s1 Strategene schizo brain S11 Homo sapiens cDNA clone IMAGE:1020438 3' similar to contains OFR_b1 OFR repetitive element ;               |
| 92228            | 21807           | 35078          | 0.56              | 4.0E-39                              | D84116.1              | NT                      | Homo sapiens DNA for prostacyclin synthase, exon 2  |
| 92228            | 21807           | 35079          | 0.56              | 4.0E-39                              | D84116.1              | NT                      | Homo sapiens DNA for prostacyclin synthase, exon 2  |
| 12427            | 24802           |                | 4.47              | 4.0E-39                              | 11418177              | NT                      | Homo sapiens Ran GTPase activating protein 1 (RANGAP1), mRNA  |
| 12534            | 24878           |                | 2.71              | 4.0E-39                              | BE589452.1            | EST_HUMAN               | QV04FN0063-260650-278-c06 FN0063 Homo sapiens cDNA  |
| 46               | 12875           | 25498          | 14.86             | 3.0E-39                              | AA681949.1            | EST_HUMAN               | fmfc16 Regional genomic DNA specific cDNA library/Homo sapiens cDNA clone CR12-1  |
| 46               | 12875           | 25499          | 14.86             | 3.0E-39                              | AA681949.1            | EST_HUMAN               | fmfc16 Regional genomic DNA specific cDNA library/Homo sapiens cDNA clone CR12-1  |
| 48               | 12875           | 25500          | 14.86             | 3.0E-39                              | AA681949.1            | EST_HUMAN               | fmfc16 Regional genomic DNA specific cDNA library/Homo sapiens cDNA clone CR12-1  |
| 11883            | 24511           | 37257          | 4.35              | 3.0E-39                              | AI084557.1            | EST_HUMAN               | aa68310_s1 Soenes_NhHMpu_S1 Homo sapiens cDNA clone IMAGE:16808988 3' similar to SW:GTR5_RAT P43427 GLUCOSE TRANSPORTER TYPE 5, SMALL INTESTINE : |
| 11883            | 24511           | 37258          | 4.35              | 3.0E-39                              | AI084557.1            | EST_HUMAN               | aa68310_s1 Soenes_NhHMpu_S1 Homo sapiens cDNA clone IMAGE:16808988 3' similar to SW:GTR5_RAT P43427 GLUCOSE TRANSPORTER TYPE 5, SMALL INTESTINE : |
| 12006            | 24541           |                | 5.82              | 3.0E-39                              | H37903.1              | EST_HUMAN               | yp51c08_s1 Soenes retina N2b4HR Homo sapiens cDNA clone IMAGE:160954 3'   |
| 877              | 13846           |                | 6.8               | 2.0E-39                              | BE409203.1            | EST_HUMAN               | aa68310_s1 Soenes_MGC_21 Homo sapiens cDNA clone IMAGE:3636269 5'   |
| 892              | 13681           |                | 14.08             | 2.0E-39                              | AI525119.1            | EST_HUMAN               | promtme-7_D011_r bvumor Homo sapiens cDNA 5'  |
| 1009             | 13768           |                | 4.2               | 2.0E-39                              | AF000573.1            | NT                      | Homo sapiens hemogenesfisate 1-2-dioxogenase gene, complete cds   |
| 1520             | 14267           |                | 11.91             | 2.0E-39                              | AW372218.1            | EST_HUMAN               | PM0-BT0340-211289-03-002 BT0340 Homo sapiens cDNA   |
|                  |                 |                |                   |                                      |                       |                         | rn21g02_s1 NCI_CGA_P_GCB0 Homo sapiens cDNA clone IMAGE:1241138 3' similar to contains THR13 THR repetitive element ;                             |
| 10986            | 14702           | 27419          | 3.28              | 2.0E-39                              | AA720574.1            | EST_HUMAN               |   |
| 2834             | 15348           | 28080          | 1.84              | 2.0E-39                              | AL163248.2            | NT                      | Homo sapiens Chromosome 21 segment HS21C048   |
| 4570             | 17108           | 29743          | 1.49              | 2.0E-39                              | BF370207.1            | EST_HUMAN               | RC4-FN0037-290700-011-e10 FN0037 Homo sapiens cDNA  |
| 5403             | 18203           | 30907          | 4.21              | 2.0E-39                              | AA508860.1            | EST_HUMAN               | ng6803_s1 NCI_CGAP_Pr6 Homo sapiens cDNA clone IMAGE:941683   |
| 7269             | 18953           | 33028          | 2.36              | 2.0E-39                              | AA080187.1            | EST_HUMAN               | ZT006102_s1 Strategene hNT neuron (#837233) Homo sapiens cDNA clone IMAGE:566651 5'   |
| 7431             | 20108           | 33185          | 0.72              | 2.0E-39                              | AL163202.2            | NT                      | Homo sapiens chromosome 21 segment HS21C002   |
| 7431             | 20108           | 33198          | 0.72              | 2.0E-39                              | AL163202.2            | NT                      | Homo sapiens chromosome 21 segment HS21C002   |
| 8209             | 20903           | 34038          | 0.87              | 2.0E-39                              | AF078779.1            | NT                      | Rattus norvegicus putative four repeat ion channel mRNA, complete cds   |
| 8394             | 22056           |                | 0.55              | 2.0E-39                              | AA984531.1            | EST_HUMAN               | am88c11_s1 Strategene schizo brain S11 Homo sapiens cDNA clone IMAGE:1630198 3'   |

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Table 4  
Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|---|--------------------|
| 9526 22179       |                 |                | 0.73              | 2.0E-39 Al088680.1         | EST_HUMAN             | tu35e03_x1 NCI_C3AP_Pt28 Homo sapiens cDNA clone IMAGE:2253052 3  |                    |
| 11409 24058      | 37365           |                | 2.97              | 2.0E-39 D88984.1           | NT                    | Human mRNA for KIAA0209 gene, partial cds   |                    |
| 1503 14249       | 26938           |                | 3.71              | 1.0E-39 AJ006345.1         | NT                    | Homo sapiens KVLQT1 gene  |                    |
| 1503 14249       | 26937           |                | 3.71              | 1.0E-39 AJ006345.1         | NT                    | Homo sapiens KVLQT1 gene  |                    |
| 1521 14263       | 26932           |                | 4.24              | 1.0E-39 7657020 NT         | Human                 | DKFZp434P211 protein (DKFZp434P211), mRNA   |                    |
| 4038 16841       | 28467           |                | 0.7               | 1.0E-39 114430308 NT       | Human                 | sapientin (cadherin-associated protein), alpha 2 (CTNNNA2), mRNA  |                    |
| 4038 16841       | 28468           |                | 0.7               | 1.0E-39 114430308 NT       | Human                 | sapientin (cadherin-associated protein), alpha 2 (CTNNNA2), mRNA  |                    |
| 4612 17347       | 28980           |                | 2.6               | 1.0E-39 AW951895.1         | EST_HUMAN             | EST364065 MAGE gene sequence, MAGB Homo sapiens cDNA  |                    |
| 4612 17347       | 28981           |                | 2.6               | 1.0E-39 AW951895.1         | EST_HUMAN             | EST364065 MAGE gene sequence, MAGC Homo sapiens cDNA  |                    |
| 4654 17388       | 30021           |                | 8.83              | 1.0E-39 7657020 NT         | Human                 | sapientin (cadherin-associated protein) (DKFZp434P211), mRNA  |                    |
| 5274 18079       | 30735           |                | 1.02              | 1.0E-39 11417342 NT        | Human                 | sapientin (cadherin-associated protein), seven thrombospondin repeats (type 1-like), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 5A (SEMA5A), mRNA |                    |
| 5274 18079       | 30736           |                | 1.02              | 1.0E-39 11417342 NT        | Human                 | sapientin (semaphorin) 5A (SEMA5A), mRNA  |                    |
| 5542 18339       | 31246           |                | 1.97              | 1.0E-39 T808786.1          | EST_HUMAN             | EST28g08,r1 Soares fetal liver spleen 1NF S Homo sapiens cDNA clone IMAGE:109402 5 similar to contains Alu repetitive element, contains LTR1 repetitive element;            |                    |
| 5578 18375       | 31287           |                | 4.84              | 1.0E-39 AJ2781170.1        | NT                    | Mus musculus mRNA for neuronal interacting factor X1 (NDX1) (Ndx1 gene)   |                    |
| 5578 18375       | 31288           |                | 4.84              | 1.0E-39 AJ2781170.1        | NT                    | Mus musculus mRNA for neuronal interacting factor X1 (NDX1) (Ndx1 gene)   |                    |
| 6727 19561       |                 |                | 1.57              | 1.0E-39 11436736 NT        | Human                 | sapientin tubby like protein 3 (TULP3), mRNA  |                    |
| 7284 18948       | 33025           |                | 1.8               | 1.0E-39 D78132.1           | NT                    | Human mRNA for ras-related GTP-binding protein, complete cds  |                    |
| 8462 21154       | 34297           |                | 1.03              | 1.0E-39 O468530            | SWISSPROT             | RIBONUCLEASE K8 PRECURSOR (RNASE K8)  |                    |
| 12357 24761      |                 |                | 1.34              | 1.0E-39 U07000.1           | NT                    | Human breakpoint cluster region (BCR) gene, complete cds  |                    |
| 542 13325        | 25987           |                | 1.68              | 9.0E-40 5803210 NT         | Human                 | sapientin UDP-glucose pyrophosphorylase 2 (UGP2), mRNA  |                    |
| 1213 13963       | 26829           |                | 15.14             | 9.0E-40 4755145 NT         | Human                 | sapientin AE-binding protein 1 (AEBP1) mRNA   |                    |
| 1213 13963       | 26830           |                | 15.14             | 9.0E-40 4755145 NT         | Human                 | sapientin AE-binding protein 1 (AEBP1) mRNA   |                    |
| 1432 14179       | 26985           |                | 6.54              | 9.0E-40 4507512 NT         | Human                 | sapientin tissue inhibitor of metalloproteinase 3 (Sirtuin fundus dystrophy, pseudodilflammatory) (TIMP3) mRNA  |                    |
| 3768 16517       | 29155           |                | 0.97              | 9.0E-40 4603784 NT         | Human                 | sapientin fragile X mental retardation 1 (FMFR1) mRNA   |                    |
| 3856 17873       | 28343           |                | 3.89              | 9.0E-40 AB083070.1         | NT                    | sapientin mRNA for KIAA1244 protein, partial cds  |                    |
| 3038 15802       | 28449           |                | 0.84              | 8.0E-40 AA078165.1         | EST_HUMAN             | 7H15A04 Chromosome 7 HeLa cDNA Library Homo sapiens cDNA clone 7H15A04  |                    |
| 3903 16653       |                 |                | 3.35              | 8.0E-40 BE388641.1         | EST_HUMAN             | 60128895SF1 NIH_MGC_8 Homo sapiens cDNA clone IMAGE:3819168 5'  |                    |
| 7616 20282       | 33390           |                | 2.03              | 7.0E-40 U60325.1           | NT                    | Human DNA polymerase gamma mRNA, nuclear gene encoding mitochondrial protein, complets cds  |                    |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|--|
| 7616             | 20282           | 39391          | 2.03              | 7.0E-40                          | U60325.1              | NT                      | Human DNA polymerase gamma mRNA, nuclear gene encoding mitochondrial protein, complete cds   |
| 10813            | 23498           | 38732          | 2.27              | 7.0E-40                          | AL168246.2            | NT                      | Homo sapiens chromosome 21 segment HS21C046  |
| 2730             | 15437           | 28174          | 8.41              | 8.0E-40                          | AA361275.1            | EST_HUMAN               | EST70527 T-cell lymphoma Homo sapiens cDNA 5' end similar to zinc finger protein family  |
| 2730             | 15437           | 28175          | 8.41              | 8.0E-40                          | AA361275.1            | EST_HUMAN               | EST70527 T-cell lymphoma Homo sapiens cDNA 5' end similar to zinc finger protein family  |
| 5849             | 18838           |                |                   | 2.24                             | 8.0E-40               | BE50478.1               | EST_HUMAN  |
| 6055             | 18835           |                |                   | 1.11                             | 8.0E-40               | 76819899                | NT   |
| 6836             | 19498           | 32522          | 3.56              | 8.0E-40                          | 11439783              | NT                      | Homo sapiens KIAA0211 gene product (KIAA0211), mRNA  |
| 6836             | 19498           | 32523          | 3.56              | 8.0E-40                          | 11439783              | NT                      | Homo sapiens fatty acid desaturase 1 (FADS1), mRNA   |
| 9877             | 22527           | 35722          | 10.25             | 8.0E-40                          | AV653028.1            | EST_HUMAN               | Homo sapiens cDNA clone GLCDGF04 3'  |
| 9877             | 22527           | 35723          | 10.25             | 8.0E-40                          | AV653028.1            | EST_HUMAN               | AV653028 GLC Homo sapiens cDNA clone GLCDGF04 3'   |
| 1869             | 14607           | 27318          | 1.78              | 4.0E-40                          | A1686005.1            | EST_HUMAN               | 181601_X1 NCI_CGAP_Pt28 Homo sapiens cDNA clone IMAGE:2248873 3' similar to TR:O73505 C73505 POL PROTEIN.;   |
| 2101             | 14832           |                | 2.27              | 4.0E-40                          | AF003528.1            | NT                      | Homo sapiens X-linked anhidrotic ectodermal dysplasia protein gene (EDA), exon 2 and flanking repeat regions   |
| 4358             | 17094           | 20729          | 9.08              | 4.0E-40                          | 7662117               | NT                      | Homo sapiens KIAA0433 protein (KIAA0433), mRNA   |
| 7786             | 20481           | 33606          | 0.6               | 4.0E-40                          | AU127831.1            | EST_HUMAN               | AU127831 NT2RP2 Homo sapiens cDNA clone NT2RP2022172 5'  |
| 7890             | 20585           | 33714          | 6.22              | 4.0E-40                          | AA74289.1             | EST_HUMAN               | nt34e10.r1 NCI_CGAP_B14 Homo sapiens cDNA clone IMAGE:1222122  |
| 8953             | 21644           | 34783          | 6.17              | 4.0E-40                          | BE00946.1             | EST_HUMAN               | PM0-BN0167-07050-002-H12 BN0167 Homo sapiens cDNA  |
| 8953             | 21644           | 34794          | 5.17              | 4.0E-40                          | BE00946.1             | EST_HUMAN               | PM0-BN0167-07050-002-H12 BN0167 Homo sapiens cDNA  |
| 10616            | 23309           | 36548          | 3.03              | 4.0E-40                          | AW841585.1            | EST_HUMAN               | RC1-CN0017-12020-012-804 CN0017 Homo sapiens cDNA  |
| 4111             | 16854           | 28481          | 1.02              | 3.0E-40                          | AI925949.1            | EST_HUMAN               | WH1207_X1 NCI_CGAP_Kir11 Homo sapiens cDNA clone IMAGE:2380549 3'  |
| 6543             | 18808           | 32313          | 7.02              | 3.0E-40                          | 11417342              | NT                      | Homo sapiens seven thrombospondin repeats (Type 1 and Type 1-like), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 5A (SEMA5A), mRNA |
| 8280             | 20974           | 34116          | 3.62              | 3.0E-40                          | 5454167               | NT                      | Homo sapiens HBV associated factor (XAP4) mRNA   |
| 8888             | 21559           | 34704          | 1.25              | 3.0E-40                          | AF078778.1            | NT                      | Rattus norvegicus putative four repeat ion channel mRNA, complete cds  |
| 9111             | 21798           | 34863          | 1.42              | 3.0E-40                          | AF078778.1            | NT                      | Rattus norvegicus putative four repeat ion channel mRNA, complete cds  |
| 11232            | 23885           | 37182          | 8.38              | 3.0E-40                          | 6005813               | NT                      | Homo sapiens serine threonine kinase (NDR), mRNA   |
| 11583            | 24162           | 37473          | 2.23              | 3.0E-40                          | AW118799.1            | EST_HUMAN               | IMAGE:2805491 3' similar to TR:Q15804 SIMILAR TO ENV OF TYPE A AND TYPE B RETROVIRUSES AND TO CLASS II HERVs ;   |
| 917              | 13120           |                | 8.83              | 2.0E-40                          | A1228036.1            | EST_HUMAN               | q952n8jx1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:188847 3'  |

**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 777              | 13549           |                |                   | 1.61                                 | 2.0E-40 AW303988.1    | EST_HUMAN               | xr2410.x1 NCI_CGAP_U4 Homo sapiens cDNA clone IMAGE:2761068 3' similar to SW_RS5_MOUSE                  |
| 1818             | 14557           |                |                   | 0.92                                 | 2.0E-40 AV731601.1    | EST_HUMAN               | P97461 40S RIBOSOMAL PROTEIN S5 ; AV731601 HTF Homo sapiens cDNA clone HTFAZE05 5'                      |
| 1827             | 14683           | 27375          | 1.58              | 2.0E-40                              | 4506188 NT            |                         | Homo sapiens proteasome (prosome, macroph) subunit, alpha type, 7 (PSMA7) mRNA, and translated products |
| 1827             | 14683           | 27376          | 1.58              | 2.0E-40                              | 4506188 NT            |                         | Homo sapiens proteasome (prosome, macroph) subunit, alpha type, 7 (PSMA7) mRNA, and translated products |
| 2084             | 14798           | 27522          | 1.21              | 2.0E-40                              | A1968562.1            | EST_HUMAN               | wh90e11.x1 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE:2514716 3' similar to TR:Q911829 Q911929          |
| 2168             | 14895           | 27630          | 2.48              | 2.0E-40                              | 5453592 NT            |                         | Homo sapiens adenylyl cyclase-associated protein 2 (CAP2) mRNA  |
| 2695             | 15404           |                | 1.44              | 2.0E-40                              | BE276932.1            | EST_HUMAN               | 6011215677F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:3345784 5'  |
| 3123             | 15888           | 28529          | 4.28              | 2.0E-40                              | 5453592 NT            |                         | Homo sapiens adenylyl cyclase-associated protein 2 (CAP2) mRNA  |
| 4843             | 17573           | 30197          | 1.68              | 2.0E-40                              | AL163280.2            | NT                      | Home sapiens chromosome 21 segment HS21C080   |
| 4843             | 17573           | 30198          | 1.68              | 2.0E-40                              | AL163280.2            | NT                      | Home sapiens chromosome 21 segment HS21C080   |
| 863              | 13632           |                | 1.78              | 1.0E-40                              | AA225889.1            | EST_HUMAN               | nc0089.81 NCI_CGAP_Pt1 Homo sapiens cDNA clone IMAGE:1007608  |
| 2827             | 15339           | 28083          | 0.93              | 1.0E-40                              | BR036881.1            | EST_HUMAN               | 601460375F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3863803 5'   |
| 2692             | 15401           |                |                   | 1.34                                 | 1.0E-40 BE018348.1    | EST_HUMAN               | bb77801.y1 NIH_MGC_10 Homo sapiens cDNA clone IMAGE:3048570 5' similar to TR:Q9Z758 Q8Z158              |
| 2741             | 15447           | 28185          | 1.18              | 1.0E-40                              | BF341030.1            | EST_HUMAN               | SYNTAXIN 17 ;   |
| 2741             | 15447           | 28186          | 1.18              | 1.0E-40                              | BF341030.1            | EST_HUMAN               | 6020686904F1 NIH_MGC_58 Homo sapiens cDNA clone IMAGE:4087736 5'  |
| 3282             | 16053           |                |                   | 1.27                                 | 1.0E-40               | 4507142 NT              | 6020686904F1 NIH_MGC_58 Homo sapiens cDNA clone IMAGE:4087736 5'  |
| 4571             | 17306           | 28834          | 4.52              | 1.0E-40                              | 4508012 NT            |                         | Homo sapiens zinc finger protein 200 (ZNF200) mRNA, and translated products                             |
| 6161             | 18938           | 31807          | 0.75              | 1.0E-40                              | W92703.1              | EST_HUMAN               | z778f1.51 Soares_fetal_liver_spleen_1NFLS_S1 Homo sapiens cDNA clone IMAGE:4118317 3'                   |
| 6161             | 18938           | 31908          | 0.75              | 1.0E-40                              | W92703.1              | EST_HUMAN               | z778f1.51 Soares_fetal_liver_spleen_1NFLS_S1 Homo sapiens cDNA clone IMAGE:4118317 3'                   |
| 6987             | 18680           | 32727          | 1.77              | 1.0E-40                              | AA573201.1            | EST_HUMAN               | nj42D04.51 NCI_CGAP_AA1 Homo sapiens cDNA clone IMAGE:985167 3'   |
| 6987             | 18680           | 32728          | 1.77              | 1.0E-40                              | AA573201.1            | EST_HUMAN               | nj42D04.51 NCI_CGAP_AA1 Homo sapiens cDNA clone IMAGE:985167 3'   |
| 7133             | 19820           | 32888          | 0.69              | 1.0E-40                              | P26808                |                         | SWISSPROT POL POLYPROTEIN (CONTAINS: PROTEASE ; REVERSE TRANSCRIPTASE ; RIBONUCLEASE H)                 |
| 10834            | 23516           | 36768          | 8.34              | 1.0E-40                              | AU148345.1            | EST_HUMAN               | AU19345 NT2RM4 Homo sapiens cDNA clone NT2RM4002122 3'  |
| 11694            | 24289           | 37612          | 1.89              | 1.0E-40                              | AA614255.1            | EST_HUMAN               | np05903.51 NCI_CGAP_P73 Homo sapiens cDNA clone IMAGE:1115891 similar to TR:G1136406                    |
| 11694            | 24289           | 37613          | 1.89              | 1.0E-40                              | AA614255.1            | EST_HUMAN               | G1136406 KIAA0173 PROTEIN ;   |
| 12376            | 25274           |                |                   | 10.09                                | 1.0E-40 BF334112.1    | EST_HUMAN               | np05903.51 NCI_CGAP_P73 Homo sapiens cDNA clone IMAGE:1115891 similar to TR:G1136406                    |
| 7822             | 20517           | 33643          | 1.62              | 8.0E-41                              | AL163203.2            | NT                      | Home sapiens chromosome 21 segment HS21C003   |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|--|
| 809              | 15553           | 26246          |                   | 1.24                       | 7.0E-41               | AB24384.1               | EST_HUMAN  |
| 809              | 16563           | 26247          |                   | 1.24                       | 7.0E-41               | AB24384.1               | EST_HUMAN  |
| 4609             | 17344           | 28976          |                   | 0.92                       | 7.0E-41               | BE389522.1              | EST_HUMAN  |
| 4609             | 17344           | 28977          |                   | 0.92                       | 7.0E-41               | BE389522.1              | EST_HUMAN  |
| 6183             | 17891           | 30507          |                   | 1.2                        | 7.0E-41               | 11545770                | NT   |
| 5518             | 18703           | 31658          |                   | 3.49                       | 7.0E-41               | 11418208                | NT   |
| 6260             | 19034           | 32009          |                   | 0.91                       | 7.0E-41               | 11433010                | NT   |
| 6895             | 17971           | 30528          | 0.98              | 7.0E-41                    | U72335.1              | NT                      | Human platelet activating factor acetylhydrolase, brain isoform, 45 kDa subunit (LIS1) gene, exons 3 and 4   |
| 11411            | 24080           | 37366          | 2.23              | 7.0E-41                    | 4758445               | NT                      | Human serotonin nucleotide binding protein 10 (GNG10) mRNA   |
| 11631            | 24228           | 37552          | 1.73              | 7.0E-41                    | AF223391.1            | NT                      | Human sepiolite activating factor (sepiolite) homolog 1, containing BRCT domain (PES1), mRNA   |
| 12782            | 25271           |                | 4.35              | 7.0E-41                    | 11417972              | NT                      | Human sepiolite activating factor (sepiolite) homolog 1, containing BRCT domain (PES1), mRNA   |
| 274              | 13081           | 25724          | 1.19              | 6.0E-41                    | AB037153.1            | NT                      | Human sepiolite activating factor (sepiolite) homolog 1, containing BRCT domain (PES1), mRNA   |
| 2104             | 14835           | 27569          | 2.04              | 6.0E-41                    | 7857042               | NT                      | Human sepiolite activating factor (sepiolite) homolog 1, containing BRCT domain (PES1), mRNA   |
| 4433             | 17199           | 29797          | 0.91              | 6.0E-41                    | BE567818.1            | EST_HUMAN               | 60134048SF1 NIH MC3 63 Homo sapiens cDNA clone IMAGE:3682877 5'  |
| 7871             | 20568           | 33692          | 1.44              | 6.0E-41                    | BF513783.1            | EST_HUMAN               | U1+BW1-amp-b-0-0-U1.s1 NCI CGAP_Sub7 Homo sapiens cDNA clone IMAGE:3070421 3'  |
| 1795             | 14535           | 27244          | 1.11              | 6.0E-41                    | T82628.1              | EST_HUMAN               | yc03e10.s1 Strategene lung (#33720) Homo sapiens cDNA clone IMAGE:786263 3'  |
| 4087             | 16630           |                | 1.07              | 5.0E-41                    | 48856368              | NT                      | Human sepiolite target of myb1 (chicken) homolog (TOM1), mRNA  |
| 6452             | 19220           |                | 2.29              | 5.0E-41                    | BE067042.1            | EST_HUMAN               | PM4-BTC341-2511198-002-F11 BT03411 Homo sapiens cDNA clone IMAGE:2511198 3'  |
| 382              | 13168           |                | 2.42              | 4.0E-41                    | BE156318.1            | EST_HUMAN               | QV0-HT0387-170200-114-019 HT0387 Homo sapiens cDNA clone IMAGE:170200 3'   |
| 1076             | 13834           | 28492          | 1.26              | 4.0E-41                    | AU116844.1            | EST_HUMAN               | AU116844 HEMBA1 Homo sapiens cDNA clone HEMBA1003583 5'  |
| 1388             | 14135           | 28810          | 15.51             | 4.0E-41                    | AJ027117.1            | EST_HUMAN               | cwa45e03.s1 Soares_parathyroid tumor_NtHPA_Homo sapiens cDNA clone IMAGE:1649794 3' similar to cwa45e03.s1 Soares_parathyroid tumor_NtHPA_Homo sapiens cDNA clone IMAGE:1649794 3' similar to TR:0000597 000597 CYTOCHROME C-LIKE POLYPEPTIDE ;contains LTR5 repetitive element; |
| 1388             | 14135           | 26811          | 15.51             | 4.0E-41                    | AJ027117.1            | EST_HUMAN               | TR:0000597 000597 CYTOCHROME C-LIKE POLYPEPTIDE ;contains LTR5 repetitive element;   |
| 1403             | 14150           | 26830          | 1.88              | 4.0E-41                    | AB038681.1            | NT                      | Hom sapiens gene for activin receptor type IIb, complete cds   |
| 1632             | 14378           | 27065          | 6.08              | 4.0E-41                    | AI500408.1            | EST_HUMAN               | trn8gc04.x1 NCI CGAP_Bmz25 Homo sapiens cDNA clone IMAGE:2165853 3' similar to contains OFR.b1 OFR repetitive element;   |
| 2891             | 15658           | 28302          | 3.55              | 4.0E-41                    | AJ228041.1            | NT                      | Hom sapiens gene for activin receptor type IIb, complete cds   |
| 2891             | 15658           | 28303          | 3.55              | 4.0E-41                    | AJ228041.1            | NT                      | Hom sapiens gene for activin receptor type IIb, complete cds   |
| 4124             | 16866           | 29493          | 2.24              | 4.0E-41                    | X92885.1              | NT                      | Hom sapiens gene for activin receptor type IIb, complete cds   |

**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID No: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--------------------|
| 8416             | 19194           |                |                   | 1.41                                 | 4.0E-41               | AV758285.1              | EST_HUMAN          |
| 8593             | 22248           | 35430          |                   | 7.24                                 | 4.0E-41               | BFS04683.1              | EST_HUMAN          |
| 11671            | 24288           |                |                   | 11.07                                | 4.0E-41               | AV710480.1              | EST_HUMAN          |
| 12546            | 26164           |                |                   | 1.63                                 | 4.0E-41               | AV708481.1              | EST_HUMAN          |
| 12727            | 24988           | 30971          |                   | 1.69                                 | 4.0E-41               | BE987118.1              | EST_HUMAN          |
| 827              | 13694           | 26358          |                   | 2.68                                 | 3.0E-41               | AB030178.1              | NT                 |
| 4301             | 17040           | 28687          |                   | 2.46                                 | 3.0E-41               | AB028888.1              | NT                 |
| 5404             | 18204           | 30808          |                   | 7.78                                 | 3.0E-41               | X87688.1                | NT                 |
| 62388            | 18031           | 32043          |                   | 1.59                                 | 3.0E-41               | AB037808.1              | NT                 |
| 7159             | 19848           | 32891          | 6                 | 0.71                                 | 3.0E-41               | AA356168.1              | EST_HUMAN          |
| 11730            | 24323           | 37647          |                   | 1.28                                 | 3.0E-41               | AJ229041.1              | NT                 |
| 11924            | 24485           |                |                   | 1.52                                 | 3.0E-41               | AA059758.1              | EST_HUMAN          |
| 12458            | 24825           |                |                   | 1.48                                 | 3.0E-41               | BF125922.1              | EST_HUMAN          |
| 1817             | 14289           | 26897          |                   | 5.17                                 | 2.0E-41               | U43701.1                | NT                 |
| 1851             | 14689           | 27989          |                   | 1.84                                 | 2.0E-41               | AA531940.1              | EST_HUMAN          |
| 2216             | 14944           | 27684          |                   | 1.64                                 | 2.0E-41               | D88962.1                | NT                 |
| 2284             | 14890           | 27730          |                   | 3.34                                 | 2.0E-41               | X89834.1                | NT                 |
| 2831             | 14289           | 26897          |                   | 4.85                                 | 2.0E-41               | U43701.1                | NT                 |
| 3321             | 16981           | 28731          |                   | 1.41                                 | 2.0E-41               | AA49549.1               | EST_HUMAN          |
| 4579             | 17314           | 28842          |                   | 1.17                                 | 2.0E-41               | AL163267.2              | NT                 |
| 4579             | 17314           | 28843          |                   | 1.17                                 | 2.0E-41               | AL163267.2              | NT                 |
| 5141             | 17859           | 30475          |                   | 0.9                                  | 2.0E-41               | AW238547.1              | EST_HUMAN          |
| 6530             | 19288           | 32300          |                   | 0.76                                 | 2.0E-41               | 45044778                | NT                 |
| 7572             | 20241           | 33348          |                   | 8.08                                 | 2.0E-41               | AF038404.1              | NT                 |
| 7887             | 20862           | 33786          |                   | 1.45                                 | 2.0E-41               | M88944.1                | NT                 |
| 7887             | 20862           | 33787          |                   | 1.45                                 | 2.0E-41               | M88944.1                | NT                 |
| 7895             | 20860           | 33818          |                   | 1.12                                 | 2.0E-41               | AA328285.1              | EST_HUMAN          |
| 8874             | 21585           | 34710          |                   | 1.61                                 | 2.0E-41               | P52742                  | SWISSPROT          |
| 8817             | 21984           | 35155          |                   | 0.52                                 | 2.0E-41               | 11417118                | NT                 |
| 8817             | 21984           | 35156          |                   | 0.52                                 | 2.0E-41               | 11417118                | NT                 |
| 11468            | 24071           | 37378          |                   | 2.76                                 | 2.0E-41               | AA372637.1              | EST_HUMAN          |
| 3201             | 15984           | 28818          |                   | 1.05                                 | 1.0E-41               | BE888735.1              | EST_HUMAN          |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Sources   | Top Hit Descriptor   |   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--|---|
| 3201             | 15934           | 28817          | 1.05              | 1.0E-41                              | BE889735.1            | EST_HUMAN  | 601445847F1 NIH MGC_85 Homo sapiens cDNA clone IMAGE-38468803 5'   |   |
| 4528             | 17284           | 28897          | 14.08             | 1.0E-41                              | 6878468 NT            | Mus musculus tubulin alpha 6 (Tub6), mRNA                                    |  |   |
| 6749             | 17818           | 30582          | 0.68              | 1.0E-41                              | HS9079.1              | EST_HUMAN  | yc18p03.51 Soenes melanoocyte 2N1bHM Homo sapiens cDNA clone IMAGE-282061 3'   |   |
| 8318             | 21985           | 35157          | 1.69              | 1.0E-41                              | AI217888.1            | EST_HUMAN  | q77c10 X1 Soenes testis_NH-T Homo sapiens cDNA clone IMAGE-1755858 3'  |   |
| 11111            | 23781           | 37058          | 1.68              | 1.0E-41                              | AW847812.1            | EST_HUMAN  | IL3-CT0213-180200-040-F08 C10213 Homo sapiens cDNA   |   |
| 12054            | 24571           |                | 2.61              | 1.0E-41                              | 11526281 NT           | Homo sapiens hypothetical protein FLJ20454 (FLJ20454), mRNA                  |  |   |
| 8418             | 21111           |                | 1.14              | 9.0E-42                              | BE178191.1            | EST_HUMAN  | RQ0-HT0613-2103004332-401 HT0613 Homo sapiens cDNA   |   |
| 8072             | 21781           | 34922          | 3.49              | 9.0E-42                              | 11880161 NT           | Homo sapiens hypothetical C2H2 zinc finger protein FLJ22504 (FLJ22504), mRNA |  |   |
| 8072             | 21781           | 34923          | 3.49              | 9.0E-42                              | 11880151 NT           | Homo sapiens hypothetical C2H2 zinc finger protein FLJ22504 (FLJ22504), mRNA |  |   |
| 450              | 13288           | 25875          | 7.71              | 8.0E-42                              | AF003530.1            | NT   | Homo sapiens homeobox protein CDX4 (CDX4) gene, complete cds and flanking repeat regions                                 |   |
| 2102             | 14833           | 27567          | 0.92              | 8.0E-42                              | AB026888.1            | NT   | Homo sapiens DNA, DLEC1 to ORC1L4 gene region, section 1/2 (DLEC1, ORC1L3, ORC1L4 genes, complete cds)                   |   |
| 12083            | 25277           |                | 4.4               | 8.0E-42                              | AAA493893.1           | EST_HUMAN  | fm07G02.51 NCI_CGAP_Thy1 Homo sapiens cDNA clone IMAGE-343588 similar to TR-G434304 G434304                              |   |
|                  |                 |                |                   |                                      |                       |  | 367BP EXPRESSED SEQUENCE TAG mRNA;   |   |
|                  |                 |                |                   |                                      |                       |  | xs97804.X1 NCI_CGAP_Bm35 Homo sapiens cDNA clone IMAGE-2592174 3' similar to contains OFR t2                             |   |
| 12111            | 25154           |                |                   | 1.56                                 | 8.0E-42               | AW088062.1   | EST_HUMAN  | OFR repetitive element;   |
| 911              | 13878           |                |                   | 2.58                                 | 7.0E-42               | AL163285.2   | NT   | Homo sapiens chromosome 21 segment HS21C085   |
| 9143             | 21874           | 35038          |                   | 1.57                                 | 7.0E-42               | AI204858.1   | EST_HUMAN  | qf58g12.X1 Soenes_testis_NH-T Homo sapiens cDNA clone IMAGE-1754278 3'  |
| 11123            | 23785           | 37071          |                   | 1.3                                  | 7.0E-42               | AA568592.1   | EST_HUMAN  | mf23g07.51 NCI_CGAP_Pt1 Homo sapiens cDNA clone IMAGE-914652  |
| 11123            | 23785           | 37072          |                   | 1.3                                  | 7.0E-42               | AA568592.1   | EST_HUMAN  | mf23g07.51 NCI_CGAP_Pt1 Homo sapiens cDNA clone IMAGE-914652  |
| 1848             | 14588           | 27289          |                   | 3.21                                 | 6.0E-42               | AF012872.1   | NT   | Homo sapiens phosphatidylinositol 4-kinase 230 (PLAK230) mRNA, complete cds                                       |
| 1848             | 14588           | 27300          |                   | 3.21                                 | 6.0E-42               | AF012872.1   | NT   | Homo sapiens phosphatidylinositol 4-kinase 230 (PLAK230) mRNA, complete cds                                       |
| 2287             | 16012           |                |                   | 3.55                                 | 6.0E-42               | AW238386.1   | EST_HUMAN  | xp28f08.X1 NCI_CGAP_HN10 Homo sapiens cDNA clone IMAGE-2741789 3' similar to contains L1.H L1 repetitive element; |
| 5331             | 18181           | 30871          |                   | 1.63                                 | 6.0E-42               | AB028990.1   | NT   | Homo sapiens mRNA for KIAA1067 protein, partial cds   |
| 5630             | 18181           | 30871          |                   | 1.45                                 | 6.0E-42               | AB028990.1   | NT   | Homo sapiens mRNA for KIAA1067 protein, partial cds   |
| 132              | 12947           |                |                   | 7.53                                 | 5.0E-42               | AJ271735.1   | NT   | Homo sapiens Xq pseudoautosomal region; segment 1/2   |
| 4223             | 13214           | 25859          |                   | 1.41                                 | 5.0E-42               | BE217913.1   | EST_HUMAN  | hG16112.X1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE-3175052 3'   |
| 474              | 13260           |                |                   | 2.57                                 | 5.0E-42               | 5730038 NT   | Homo sapiens SET domain and meither transposase fusion gene (SETMAR) mRNA  |   |
| 475              | 13261           |                |                   | 2.74                                 | 5.0E-42               | 5730038 NT   | Homo sapiens SET domain and meither transposase fusion gene (SETMAR) mRNA  |   |
| 6587             | 18350           | 32363          |                   | 1.04                                 | 5.0E-42               | 11433063 NT  | Homo sapiens ubiquitin protein ligase E3A (human papilloma virus E6-associated protein, Angelman syndrome) (UBE3A), mRNA |   |
| 6587             | 19350           | 32364          |                   | 1.04                                 | 5.0E-42               | 11433063 NT  | Homo sapiens ubiquitin protein ligase E3A (human papilloma virus E6-associated protein, Angelman syndrome) (UBE3A), mRNA |   |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--------------------|
| 6704             | 18819           | 32682          | 3.12              | 5.0E-42                              | 11417857 NT           | Homo sapiens myotubularin related protein 3 (MTM1P3), mRNA   |                    |
| 7101             | 19789           | 32854          | 1.69              | 5.0E-42                              | AF071589.1 NT         | Homo sapiens multifunctional calcium/calmodulin-dependent protein kinase II delta2 isoform mRNA, complete cds                              |                    |
| 7711             | 20375           | 33489          | 0.57              | 5.0E-42                              | 4826977 NT            | Homo sapiens neitin (RELN) mRNA  |                    |
| 88777            | 21369           | 34515          | 3.65              | 6.0E-42                              | AB037715.1 NT         | Homo sapiens mRNA for KIAA1284 protein, partial cds  |                    |
| 10920            | 23600           | 36849          | 2.44              | 5.0E-42                              | 8923162 NT            | Homo sapiens hypothetical protein FLJ20169 (FLJ20169), mRNA  |                    |
| 738              | 13510           | 26167          | 5.08              | 4.0E-42                              | AF055068.1 NT         | Homo sapiens MHC class 1 region  |                    |
| 736              | 13510           | 26168          | 5.09              | 4.0E-42                              | AF055068.1 NT         | Homo sapiens MHC class 1 region  |                    |
| 1044             | 13803           | 26462          | 3.46              | 4.0E-42                              | AF189011.1 NT         | Homo sapiens ribonuclease III (RN3) mRNA, complete cds   |                    |
| 4171             | 16911           | 29541          | 1.22              | 4.0E-42                              | X59477.1 NT           | H.sapiens PROS-27 mRNA   |                    |
| 42022            | 16943           | 29670          | 1.07              | 4.0E-42                              | AF248219.1 NT         | Homo sapiens SNARE protein kinase SNAK mRNA, complete cds  |                    |
| 42223            | 16864           | 29589          | 4.15              | 4.0E-42                              | 4508496 NT            | Homo sapiens regulatory factor X-4 (influences HLA class II expression) (RFX4), mRNA   |                    |
| 45443            | 17278           | 29890          | 15.12             | 4.0E-42                              | 4508008 NT            | Homo sapiens zinc finger protein 177 (ZNF177) mRNA   |                    |
| 10546            | 23241           | 36475          | 1.68              | 4.0E-42                              | AW818630.1 EST_HUMAN  | RCL-ST0278-04040-018-h11 ST0278 Homo sapiens cDNA  |                    |
| 10545            | 23241           | 36476          | 1.68              | 4.0E-42                              | AW818630.1 EST_HUMAN  | RCL-ST0278-04040-018-h11 ST0278 Homo sapiens cDNA  |                    |
| 11389            | 23395           | 37287          | 1.5               | 4.0E-42                              | BF035327.1 EST_HUMAN  | 60146863 IF1 NIH MGCC_66 Homo sapiens cDNA clone IMAGE-3882086.5   |                    |
| 14681            | 14243           | 26902          | 2.81              | 2.0E-42                              | BP376834.1 EST_HUMAN  | RC0-TN0079-110890-024-907 TN0079 Homo sapiens cDNA   |                    |
| 2413             | 15134           |                | 2.92              | 2.0E-42                              | AW896344.1 EST_HUMAN  | RC3-NN0070-27040-011-h10 NN0070 Homo sapiens cDNA  |                    |
| 2425             | 15146           | 27878          | 2.22              | 2.0E-42                              | AW25059.1 EST_HUMAN   | 2819293.3 prime NIH MGCC_7 Homo sapiens cDNA clone IMAGE-2819293.3'  |                    |
| 5670             | 18485           | 31379          | 7.8               | 2.0E-42                              | AW855368.1 EST_HUMAN  | EST367438 IMAGE sequences, MAGC Homo sapiens cDNA  |                    |
| 5670             | 18485           | 31380          | 7.8               | 2.0E-42                              | AW855368.1 EST_HUMAN  | EST367438 IMAGE sequences, MAGC Homo sapiens cDNA  |                    |
| 68584            | 19416           | 32429          | 1.48              | 2.0E-42                              | AI052558.1 EST_HUMAN  | 0W834055.LXl Socres_fetal liver spleen INFEL_S1 Homo sapiens cDNA clone IMAGE-1663417.3'   |                    |
| 9741             | 22392           | 35598          | 1.32              | 2.0E-42                              | BE538918.1 EST_HUMAN  | 6010612-B4F1 NIH MGCC_10 Homo sapiens cDNA clone IMAGE-3447620.5'  |                    |
| 9855             | 22683           | 35807          | 0.89              | 2.0E-42                              | P81649 SWISSPROT      | RIBONUCLEASE K3 (RNASE K3)   |                    |
| 98955            | 22683           | 35808          | 0.89              | 2.0E-42                              | P81649 SWISSPROT      | RIBONUCLEASE K3 (RNASE K3)   |                    |
| 11742            | 24384           | 37680          | 1.37              | 2.0E-42                              | AL1632468.2 NT        | Human endogenous retrovirus pHE.1 (ERV9)   |                    |
| 717              | 13490           | 28443          | 1.21              | 1.0E-42                              | X57147.1 EST_HUMAN    | U1-HB11-efn-e-04-0-L1.s1 NCI CGAP Sub3 Homo sapiens cDNA clone IMAGE-2721871.3'  |                    |
| 1019             | 13779           | 28441          | 1.1               | 1.0E-42                              | AW298909.1 NT         | Human endogenous retrovirus pHE.1 (ERV9)   |                    |
| 1079             | 13837           | 28495          | 1.18              | 1.0E-42                              | A251818.1 NT          | Homo sapiens partial C9 gene for complement component C9, exon 1   |                    |
| 1079             | 13837           | 28498          | 1.18              | 1.0E-42                              | A251818.1 NT          | Homo sapiens partial C9 gene for complement component C9, exon 1   |                    |
| 1220             | 15583           | 28841          | 16.49             | 1.0E-42                              | AF087168.1 NT         | Homo sapiens NADH-Ubiquinone oxidoreductase AGGG subunit precursor homolog mRNA, nuclear gene encoding mitochondrial protein, complete cds |                    |
| 1220             | 15583           | 28842          | 16.49             | 1.0E-42                              | AF087168.1 NT         | Homo sapiens NADH-Ubiquinone oxidoreductase AGGG subunit precursor homolog mRNA, nuclear gene encoding mitochondrial protein, complete cds |                    |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|---|
| 1698             | 14439           | 27137          | 1.13              | 1.0E-42                    | 11423219              | NT                      | Homo sapiens rec (LOC61201), mRNA   |
| 2548             | 15261           | 27898          | 1.83              | 1.0E-42                    | 5174458               | NT                      | Homo sapiens major histocompatibility complex, class II, DM alpha (HLA-DMA) mRNA  |
|                  |                 |                |                   |                            |                       |                         | Homo sapiens origin recognition complex, subunit 5 (yeast homolog)-like (ORC5L) mRNA, and translated products   |
| 2804             | 15730           | 28380          | 10.28             | 1.0E-42                    | 45095524              | NT                      | Homo sapiens KIAA0255 gene product (KIAA0255), mRNA   |
| 3695             | 16449           | 28088          | 2.8               | 1.0E-42                    | 7662027               | NT                      | Homo sapiens chromosome 21 segment HS21C087   |
| 3905             | 16855           | 28296          | 1.17              | 1.0E-42                    | AL168267.2            | NT                      | Homo sapiens chromosome 21 segment HS21C080   |
| 4221             | 16962           | 28587          | 1.92              | 1.0E-42                    | AL168280.2            | NT                      | Homo sapiens chromosome 21 segment HS21C080   |
| 4554             | 17289           | 28918          | 0.75              | 1.0E-42                    | AW813617.1            | EST_HUMAN               | RC3-ST0197-161099-012-se3 ST0197 Homo sapiens cDNA  |
| 4697             | 17431           | 30062          | 1.88              | 1.0E-42                    | 6803122               | NT                      | Homo sapiens proteasome inhibitor (IP31), mRNA  |
| 4697             | 17431           | 30063          | 1.88              | 1.0E-42                    | 5803122               | NT                      | Homo sapiens proteasome inhibitor (IP31), mRNA  |
| 4728             | 17460           | 30097          | 6.02              | 1.0E-42                    | 4506758               | NT                      | Homo sapiens ryanodine receptor 3 (RYR3) mRNA   |
| 5044             | 17763           | 30378          | 1.08              | 1.0E-42                    | 4501912               | NT                      | Homo sapiens a disintegrin and metalloprotease domain 23 (ADAM23) mRNA  |
| 5044             | 17763           | 30379          | 1.08              | 1.0E-42                    | 4501912               | NT                      | Homo sapiens a disintegrin and metalloprotease domain 23 (ADAM23) mRNA  |
| 9988             | 22634           | 35844          | 4.03              | 9.0E-43                    | 4757898               | NT                      | Y chromosome-like (CDY) mRNA  |
| 637              | 13416           | 26052          | 19.69             | 8.0E-43                    | AV736824.1            | EST_HUMAN               | AV736824 CB Homo sapiens cDNA clone CBLAKH08 5'   |
| 637              | 13416           | 26053          | 19.69             | 8.0E-43                    | AV736824.1            | EST_HUMAN               | AV736824 CB Homo sapiens cDNA clone CBLAKH08 5'   |
| 684              | 13459           | 26104          | 6.03              | 8.0E-43                    | 8923276               | NT                      | Homo sapiens hypothetical protein FLJ20297 (FLJ20297), mRNA   |
| 684              | 13459           | 26105          | 6.03              | 8.0E-43                    | 8923276               | NT                      | Homo sapiens hypothetical protein FLJ20297 (FLJ20297), mRNA   |
| 684              | 13459           | 26106          | 6.03              | 8.0E-43                    | 8923276               | NT                      | Homo sapiens hypothetical protein FLJ20297 (FLJ20297), mRNA   |
| 5612             | 18408           | 31321          | 0.78              | 8.0E-43                    | H139852.1             | EST_HUMAN               | Y08e11.1 Soares placentae NB2HP1-Homo sapiens cDNA clone IMAGE-148172 5'  |
| 3632             | 16385           | 28025          | 6.42              | 7.0E-43                    | AW248442.1            | EST_HUMAN               | 2822251_5'prime NIH_MIGC_7 Homo sapiens cDNA clone IMAGE-2822251 5'   |
|                  |                 |                |                   |                            |                       |                         | WP681001.X1 NCL_CGAP_Bm25 Homo sapiens cDNA clone IMAGE-24669835 3' similar to TR:015476  |
| 8867             | 21359           |                | 4.09              | 7.0E-43                    | AI896748.1            | EST_HUMAN               | O15475 UNNAMED HERV-H PROTEIN ;contains LTR7.b1LTR7 repetitive element; ne72606.s1 NCL_CGAP_Ew1 Homo sapiens cDNA clone IMAGE-209803 similar to gb:U05085 80S |
| 1321             | 14070           |                | 10.45             | 6.0E-43                    | AA491880.1            | EST_HUMAN               | RIBOSOMAL PROTEIN L30 (HUMAN);  |
| 2600             | 15314           |                | 2.25              | 6.0E-43                    | AV708201.1            | EST_HUMAN               | AV708201 ADC Homo sapiens cDNA clone ADCACC10 5'  |
| 6219             | 18893           | 31989          | 2.24              | 6.0E-43                    | 9855973               | NT                      | Homo sapiens ATP-binding cassette, sub-family C (CFTR/MRP), member 3 (ABCC3), transcript variant MRP3B, mRNA  |
| 6808             | 19468           | 32492          | 2.09              | 6.0E-43                    | AW468897.1            | EST_HUMAN               | Id3004.x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE-22910891 3' similar to contains MER1.13 MER1 MER1 repetitive element;                             |
| 9751             | 22402           | 35807          | 2.18              | 6.0E-43                    | AA195154.1            | EST_HUMAN               | Z35606.T1 Soares_NhIMPu_S1 Homo sapiens cDNA clone IMAGE-865410 5' similar to TR:G529641  |
| 11044            | 23714           |                | 2.95              | 6.0E-43                    | AL119198.1            | EST_HUMAN               | G529641 DB1, COMPLETE CDS; contains element PTR7 repetitive element; DKFZp76I1712_1761 (synonym: hamy2) Homo sapiens cDNA clone DKFZp76I1712 6'               |
| 138              | 12953           |                | 2.84              | 5.0E-43                    | AL1632132             | NT                      | Homo sapiens chromosome 21 segment HS21C013   |

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|------------------|-----------------|----------------|-------------------|--------------------------------------|--|---|--------------------|
| 490 13276        | 25909           | 4.93           | 5.0E-49           | AA382760.1                           | EST_HUMAN  | EST960383 Testis [ Homo sapiens cDNA 5' end   |                    |
| 2850 16618       | 28264           | 1.52           | 5.0E-49           | AV732578.1                           | EST_HUMAN  | AV732578 HTF [ Homo sapiens cDNA clone HTFANC08 5'  |                    |
| 6213 19463       | 32484           | 1.17           | 5.0E-49           | AI613509.1                           | EST_HUMAN  | Iw22607.x1 NCI_CGAP_Bm52 Homo sapiens cDNA clone IMAGE:2260452 3'   |                    |
| 6802 19463       | 32484           | 0.72           | 5.0E-49           | AI613509.1                           | EST_HUMAN  | Iw22607.x1 NCI_CGAP_Bm52 Homo sapiens cDNA clone IMAGE:2260452 3'   |                    |
| 6778 21470       |                 | 0.46           | 5.0E-49           | H74277.1                             | EST_HUMAN  | Y44912.r1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:228510 6'   |                    |
| 9248 21927       | 35098           | 0.47           | 5.0E-49           | AA044450.1                           | EST_HUMAN  | ZK55602.r1 Soares pregnant uterus_NbHPU Homo sapiens cDNA clone IMAGE:486688 5' similar to gb:D29805 N-ACETYL-LACTOSAMINE SYNTHASE (HUMAN); |                    |
| 9248 21927       | 35099           | 0.47           | 5.0E-49           | AA044450.1                           | EST_HUMAN  | ZK55602.r1 Soares pregnant uterus_NbHPU Homo sapiens cDNA clone IMAGE:486688 5' similar to TR: P90581 P90581                                |                    |
| 9284 22018       | 35186           | 4.44           | 5.0E-49           | AA465288.1                           | EST_HUMAN  | gb:D29805 N-ACETYL-LACTOSAMINE SYNTHASE (HUMAN);  |                    |
| 10287 22244      | 36158           | 2.31           | 5.0E-49           | AI733244.1                           | EST_HUMAN  | aa33408.r1 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:1568810 3' similar to TR:P90581 P90581   |                    |
| 10335 22862      | 36201           | 1.21           | 5.0E-49           | AL049110.1                           | EST_HUMAN  | DKE7443402019_r1 434 (synonym: hsc3) Homo sapiens cDNA clone DKFZp43D0119   |                    |
| 10663 23354      | 36583           | 5.29           | 6.0E-43           | AW863007.1                           | EST_HUMAN  | MR2-SN0007-280400-004-002 SN0007 Homo sapiens cDNA  |                    |
| 10891 23571      | 36822           | 1.84           | 6.0E-43           | W28011.1                             | EST_HUMAN  | 55a4 Human retina cDNA randomly primed sublibrary Homo sapiens cDNA   |                    |
| 852 16619        | 26383           | 5.9            | 4.0E-43           | AF003528.1                           | NT   | Homo sapiens X-linked arachnoid ectodermal dysplasia protein gene (EDA), exon 2 and flanking repeat regions                                 |                    |
| 6178 17987       | 30502           | 1.02           | 4.0E-43           | AI056838.1                           | EST_HUMAN  | 044703.x1 NCI_CGAP_Bm23 Homo sapiens cDNA clone IMAGE:1668013 3'  |                    |
| 6276 18049       | 32026           | 0.7            | 4.0E-43           | 6996009.NT                           | Hom sapiens glycyl-tRNA synthetase (GARS), mRNA    |   |                    |
| 7030 19722       |                 | 2.32           | 4.0E-43           | 11416783.NT                          | Hom sapiens protocadherin beta 6 (PCDHB6), mRNA    |   |                    |
| 8077 20771       | 33900           | 5.21           | 4.0E-43           | AI244241.1                           | EST_HUMAN  | qJ76a02.x1 NCI_CGAP_Kid3 Homo sapiens cDNA clone IMAGE:1865354 3' similar to contains MER10.13  |                    |
| 8077 20771       | 33901           | 5.21           | 4.0E-43           | AI244241.1                           | EST_HUMAN  | MER10 repetitive element;   |                    |
| 10213 22861      | 36074           | 1.23           | 4.0E-43           | 60056967.NT                          | Hom sapiens zinc finger protein 161 (ZNF161), mRNA |   |                    |
| 11275 23936      | 37223           | 1.68           | 4.0E-43           | T77380.1                             | EST_HUMAN  | yd72b10.r1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:113277 5'  |                    |
| 12030 24558      |                 | 3.05           | 4.0E-43           | R20950.1                             | EST_HUMAN  | yg05605.r1 Soares infant brain 1NIB Homo sapiens cDNA clone IMAGE:31363 5' similar to contains MER10 repetitive element;                    |                    |
| 1191 13943       |                 | 4.59           | 3.0E-43           | AF223391.1                           | NT   | Homo sapiens calcium channel alpha1E subunit (CACNA1E) gene, exons 7-9, and partial cds, alternatively spliced                              |                    |
| 1690 14434       | 27130           | 2.07           | 3.0E-43           | X978669.1                            | NT   | H_sapiens gene encoding La autoantigen  |                    |
| 3558 16313       | 28950           | 1.31           | 3.0E-43           | S68002.1                             | NT   | AML1-EVI-1-AML1-EVI-1 fusion protein (rearranged translocation) [human, leukemic cell line SKH1, mRNA Mutant, 65388 nt]                     |                    |
| 4258 16898       | 28629           | 1.04           | 3.0E-43           | AA548154.1                           | EST_HUMAN  | ink55008.s1 NCI_CGAP_Pt7 Homo sapiens cDNA clone IMAGE:1017419  |                    |

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|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 55063            | 18593           | 31518          | 0.72              | 3.0E-43                              | D84613.1              | NT                      | Human TBXAS1 gene for thromboxane synthase, promoter region and exon 1  |
| 6264             | 19038           | 32013          | 2.24              | 3.0E-43                              | 7305980               | NT                      | Mus musculus chordin (Obox), mRNA   |
| 6264             | 19038           | 32014          | 2.24              | 3.0E-43                              | 7305980               | NT                      | Mus musculus chordin (Obox), mRNA   |
| 62228            | 19380           | 32404          | 4.59              | 3.0E-43                              | U65487.1              | NT                      | Human ribosomal RNA upstream binding transcription factor (UBTF) gene, partial cds<br>ee88f11.51 Strategene fetal retina clone IMAGE:888413 3' similar to contains                  |
| 8083             | 20757           |                | 8.98              | 3.0E-43                              | AA458824.1            | EST_HUMAN               | THR12 THR repetitive element;   |
| 8719             | 21411           | 34554          | 1.87              | 3.0E-43                              | 7861721               | NT                      | Homo sapiens hypothetical protein (HSA011916), mRNA   |
| 8784             | 22416           | 35822          | 0.56              | 3.0E-43                              | 11420217              | NT                      | [ Homo sapiens similar to ornithine carbamoyltransferase (H. sapiens) (LOC38846), mRNA  |
| 179              | 12891           |                | 7.57              | 2.0E-43                              | AI190784.1            | EST_HUMAN               | IMAGE:1783968 3' similar to contains PTR7.13<br>qd81c09.x1 Scores _tests_NtT: Homo sapiens cDNA clone IMAGE:1783968 3' similar to contains element<br>PTR7 PTR7 repetitive element; |
| 63883            | 19152           | 32151          | 1.13              | 2.0E-43                              | BE222778.1            | EST_HUMAN               | hu53a08.x1 NCI_CGAP_Bm41 Homo sapiens cDNA clone IMAGE:3173750 3' similar to contains element<br>MER40 repetitive element;  |
| 63883            | 19152           | 32162          | 1.13              | 2.0E-43                              | BE222778.1            | EST_HUMAN               | hu53a08.x1 NCI_CGAP_Bm41 Homo sapiens cDNA clone IMAGE:3173750 3' similar to contains element<br>MER40 repetitive element;  |
| 7176             | 19862           | 32833          | 1.32              | 2.0E-43                              | AW207980.1            | EST_HUMAN               | UH-B11-4f-a-09-0-U.1 s1 NCI_CGAP_Sws3 Homo sapiens cDNA clone IMAGE:27217123'   |
| 8207             | 20801           |                | 6.59              | 2.0E-43                              | U43701.1              | NT                      | Human ribosomal protein L23a mRNA, complete cds   |
| 11156            | 23823           |                | 4.94              | 2.0E-43                              | TD8007.1              | EST_HUMAN               | FBJGS Fetal brain, Strategic gene Homo sapiens cDNA clone FB1G5 3' end similar to LINE-1  |
| 1645             | 14391           | 27080          | 2.94              | 1.0E-43                              | AF154836.1            | NT                      | Homo sapiens Ras-like GTP-binding protein (RAB27A) gene, exons 1b and 2   |
| 1645             | 14391           | 27081          | 2.94              | 1.0E-43                              | AF154836.1            | NT                      | Homo sapiens Ras-like GTP-binding protein (RAB27A) gene, exons 1b and 2   |
| 1770             | 14443           | 27142          | 1.57              | 1.0E-43                              | AL163284.2            | NT                      | Homo sapiens chromosome 21 segment HS21C084   |
| 2727             | 15434           | 28170          | 3.85              | 1.0E-43                              | BF349283.1            | EST_HUMAN               | 6020202313 NCI_CGAP_Bm87 Homo sapiens cDNA clone IMAGE:4157686 5'   |
| 5325             | 18128           | 30788          | 0.74              | 1.0E-43                              | 4885544               | NT                      | [ Homo sapiens pyruvate dehydrogenase kinase, isoenzyme 3 (PDK3) mRNA   |
| 6514             | 19279           | 32280          | 8.45              | 1.0E-43                              | 4507168               | NT                      | Homo sapiens Sp4 transcription factor (SP4) mRNA  |
| 6514             | 19279           | 32281          | 8.45              | 1.0E-43                              | 4507168               | NT                      | Homo sapiens Sp4 transcription factor (SP4) mRNA  |
| 6870             | 17047           | 30542          | 1.36              | 1.0E-43                              | R18751.1              | EST_HUMAN               | yg40801.71 Scores infant brain 1NIB Homo sapiens cDNA clone IMAGE:34732 5' similar to   |
| 7833             | 20528           | 33695          | 1.13              | 1.0E-43                              | AF175265.1            | NT                      | SP-ED38_MOUSE P28858 BRAIN PROTEIN DN38 ;   |
| 7825             | 20660           |                | 4.03              | 1.0E-43                              | AF188480.1            | NT                      | Homo sapiens vacuolar sorting protein 35 (VPS35) mRNA, complete cds   |
| 8736             | 21428           | 34574          | 23.49             | 1.0E-43                              | AW863878.1            | EST_HUMAN               | EST375749 MAGE resequences, MAGH Homo sapiens cDNA  |
| 10189            | 22837           | 36052          | 0.66              | 1.0E-43                              | AW853229.1            | EST_HUMAN               | EST385289 MAGE resequences, MAGB Homo sapiens cDNA  |
| 10894            | 23564           | 36812          | 8.11              | 1.0E-43                              | AI884961.1            | EST_HUMAN               | w87hd1x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:2894705 3'  |
| 11338            | 24028           | 37332          | 4.78              | 1.0E-43                              | 11424378              | NT                      | Homo sapiens calcium channel, voltage-dependent, alpha 1E subunit (CACNA1E), mRNA   |
| 11975            | 24520           |                | 3.04              | 1.0E-43                              | AL13784.1             | EST_HUMAN               | DKFZp761D1015_11781 (synonym: harry2) Homo sapiens cDNA clone IMAGE:2313775 3'  |
| 12253            | 24899           | 31079          | 1.89              | 1.0E-43                              | AI875416.1            | EST_HUMAN               | wb89h04.x1 NCI_CGAP_Pt728 Homo sapiens cDNA clone IMAGE:2313775 3'  |

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|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|--|---|--|
|                  |                 |                |                   |                                  |                       |  |   |  |
| 12469            | 24835           | 31032          | 3.41              | 9.0E-44                          | 11418322              | NT   | Homo sapiens cadherin EGF LAG seven-pass G-type receptor 1 (CELSR1), mRNA   |  |
| 870              | 136339          | 26309          | 6.23              | 8.0E-44                          | AI222985.1            | EST_HUMAN  | ch23g01.1x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:1845552 3'  |  |
| 870              | 136339          | 26310          | 6.23              | 8.0E-44                          | AI222985.1            | EST_HUMAN  | ch23g01.1x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:1845552 3'  |  |
| 8437             | 21129           | 34268          | 2.67              | 8.0E-44                          | Xba354.1              | NT   | H_sapiens DNA for Cone cGMP-PDE gene  |  |
| 102336           | 22894           | 36097          | 0.47              | 8.0E-44                          | 11423497              | NT   | Homo sapiens small proline-rich protein 2C (SPFR2C), mRNA   |  |
| 102336           | 22894           | 36098          | 0.47              | 8.0E-44                          | 11423497              | NT   | Homo sapiens small proline-rich protein 2C (SPFR2C), mRNA   |  |
| 111117           | 23787           | 37084          | 3.78              | 8.0E-44                          | Y10498.2              | NT   | Homo sapiens mRNA for thymidine kinase, partial   |  |
| 116889           | 24283           | 37608          | 1.36              | 8.0E-44                          | I_291391.1            | NT   | Homo sapiens myosin mRNA, partial cds   |  |
| 12207            | 24673           | 31073          | 4.09              | 8.0E-44                          | 11627389              | NT   | Homo sapiens polymerase (RNA) II (DNA directed) polypeptide F (POLR2F), mRNA  |  |
| 122448           | 256038          | 30970          | 1.38              | 8.0E-44                          | 11418086              | NT   | Homo sapiens putative nuclear protein (HRHFB2122), mRNA   |  |
| 125589           | 251186          | 30803          | 2.65              | 8.0E-44                          | 11418086              | NT   | Homo sapiens protein kinase C, alpha binding protein (PRKCABP), mRNA  |  |
| 844              | 13423           | 0.69           | 7.0E-44           | RD6355.1                         | EST_HUMAN             | yes8901.11 Scores_fetal liver spleen 1NFLS_Homo_sapiens_cDNA_clone IMAGE:124920 5' |   |  |
| 2228             | 14958           | 27698          | 1.08              | 7.0E-44                          | 5031888               | NT   | Homo sapiens LIM domain-containing preferred translocation partner in lipoma (LPP) mRNA                                 |  |
| 28668            | 15732           | 28381          | 2.68              | 7.0E-44                          | AF048729.1            | NT   | Homo sapiens minisatellite ins-32 repeat region   |  |
| 28668            | 15732           | 28382          | 2.68              | 7.0E-44                          | AF048729.1            | NT   | Homo sapiens minisatellite ins-32 repeat region   |  |
| 38443            | 16894           | 28231          | 2.54              | 7.0E-44                          | AL163284.2            | NT   | Homo sapiens chromosome 21 segment HS21C084   |  |
| 42177            | 16858           | 28581          | 1.12              | 7.0E-44                          | AF231919.1            | NT   | Homo sapiens chromosome 21 unknown mRNA   |  |
| 42177            | 16858           | 28582          | 1.12              | 7.0E-44                          | AF231919.1            | NT   | Homo sapiens chromosome 21 unknown mRNA   |  |
| 51422            | 17880           | 30478          | 1.01              | 7.0E-44                          | 4505646               | NT   | Homo sapiens proprotein convertase subtilisin/kexin type 2 (PCSK2) mRNA   |  |
| 80865            | 29778           | 339838         | 2.28              | 7.0E-44                          | AU159839              | Y79AA1 Homo sapiens cDNA clone Y79AA1 Homo sapiens cDNA clone Y79AA1000488 3'      |   |  |
| 80112            | 18783           | 31756          | 0.94              | 8.0E-44                          | Z20948.1              | EST_HUMAN  | HSAAADEYU P_Human foetal Brain Whole tissue Homo sapiens cDNA   |  |
| 11781            | 24372           | 37702          | 1.78              | 8.0E-44                          | AW054050.1            | EST_HUMAN  | EST388120 MAGE resequences, MAGC Homo sapiens cDNA  |  |
| 2886             | 13102           |                | 3.3               | 5.0E-44                          | AJ289880.1            | NT   | Homo sapiens KIAA0851 gene (partial), X73 gene and LZTF1 gene   |  |
| 323              | 13124           |                | 2.72              | 5.0E-44                          | AJ289880.1            | NT   | Homo sapiens KIAA0851 gene (partial), X73 gene and LZTF1 gene   |  |
| 7788             | 20483           | 33607          | 4.96              | 5.0E-44                          | AI568523.1            | EST_HUMAN  | In40d02_x1 NCI_CGAP_Bm25 Homo sapiens cDNA clone IMAGE:2170033 3' similar to contains OFR.M OFR ORF repetitive element: |  |
| 9284             | 22038           |                | 2.34              | 5.0E-44                          | AU124571.1            | EST_HUMAN  | AU124571 NT2RM4 Homo sapiens cDNA clone NT2RM4002218 5'   |  |
| 34408            | 16167           | 28918          | 3.75              | 4.0E-44                          | AL163303.2            | NT   | Homo sapiens chromosome 21 segment HS21C103   |  |
| 7370             | 20050           | 33131          | 0.68              | 4.0E-44                          | BE883178.1            | EST_HUMAN  | 601608601F1 NIH MGCG_71 Homo sapiens cDNA clone IMAGE:3910152 5'  |  |
| 8169             | 20883           | 33995          | 0.78              | 4.0E-44                          | L21948.1              | NT   | Human fibrillin (FBN1) locus polymorphism   |  |
| 8777             | 21469           |                | 0.61              | 4.0E-44                          | BE178618.1            | EST_HUMAN  | RC3-HT0585-010400-023-d08 HT0585 Homo sapiens cDNA  |  |
| 11202            | 23868           | 37153          | 5.38              | 4.0E-44                          | U80878.1              | NT   | Homo sapiens carboxyl terminal LIM domain protein (CLIM1) mRNA, complete cds  |  |
| 3094             | 16859           | 28500          | 5.77              | 3.0E-44                          | AA168951.1            | EST_HUMAN  | NP_180511 Strabismus fetal retina S37202 Homo sapiens cDNA clone IMAGE:609777 5'  |  |

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Table 4  
Single Exon Probes Express

| Probe<br>SEQ ID<br>NO: | Exon<br>SEQ ID<br>NO: | ORF SEQ<br>ID NO: | Expression<br>Signed | Most Similar<br>(Top) Hit<br>BLAST E<br>Value | Top Hit Accession<br>No. | Top Hit<br>Database<br>Source | Top Hit Descriptor |   |
|------------------------|-----------------------|-------------------|----------------------|---|--------------------------|-------------------------------|--------------------|---|
|                        |                       |                   |                      |   |                          |                               | EST_HUMAN          | EST42299 Endometrial tumor <i>Homo sapiens</i> cDNA 5' end similar to alpha-1-antiproteinase F<br>Sus scrofa domestica submaxillary epomulin mRNA, complete cds |
| 3870                   | 16820                 | 29280             |                      | 1.37  | 3.0E-44 AA3317234.1      | NT                            |                    |   |
| 9419                   | 22097                 | 35269             | 0.55                 | 3.0E-44 AF005273.1                            | NT                       |                               |                    |   |
| 1027                   | 13787                 | 28446             | 2.84                 | 2.0E-44 4828685                               | NT                       |                               |                    |   |
| 1027                   | 13787                 | 28447             | 2.84                 | 2.0E-44 4828685                               | NT                       |                               |                    |   |
| 1185                   | 13837                 | 28602             | 3.36                 | 2.0E-44 5803200                               | NT                       |                               |                    |   |
| 1185                   | 13837                 | 28603             | 3.36                 | 2.0E-44 5803200                               | NT                       |                               |                    |   |
| 1289                   | 14038                 | 28711             | 4.06                 | 2.0E-44 AF133588.1                            | NT                       |                               |                    |   |
| 1347                   | 14095                 | 28770             | 1.3                  | 2.0E-44 BE465225.1                            | EST_HUMAN                |                               |                    |   |
| 2147                   | 14877                 | 27612             | 2.22                 | 2.0E-44 AF07051.1                             | NT                       |                               |                    |   |
| 2616                   | 15327                 |                   | 1.31                 | 2.0E-44 5801933                               | NT                       |                               |                    |   |
| 3463                   | 16219                 | 28873             | 1.13                 | 2.0E-44 D87675.1                              | NT                       |                               |                    |   |
| 4531                   | 17286                 | 28899             | 1.54                 | 2.0E-44 AW864378.1                            | EST_HUMAN                |                               |                    |   |
| 6004                   | 18785                 | 31747             | 1.87                 | 2.0E-44 114468901                             | NT                       |                               |                    |   |
| 6753                   | 17827                 | 30562             | 3.31                 | 2.0E-44 AF036908.1                            | NT                       |                               |                    |   |
| 7313                   | 18998                 | 33074             | 4.57                 | 2.0E-44 114192226                             | NT                       |                               |                    |   |
| 7313                   | 18998                 | 33076             | 4.57                 | 2.0E-44 114192226                             | NT                       |                               |                    |   |
| 8327                   | 21020                 | 34155             | 0.87                 | 2.0E-44 77058370                              | NT                       |                               |                    |   |
| 8327                   | 21020                 | 34168             | 0.87                 | 2.0E-44 77058370                              | NT                       |                               |                    |   |
| 8517                   | 21209                 | 34352             | 1.58                 | 2.0E-44 BE386058.1                            | EST_HUMAN                |                               |                    |   |
| 11883                  | 24456                 |                   | 1.82                 | 2.0E-44 BE244902.1                            | EST_HUMAN                |                               |                    |   |
| 12760                  | 25620                 |                   | 1.4                  | 2.0E-44 11523283                              | NT                       |                               |                    |   |
| 51                     | 12880                 | 25507             | 2.43                 | 1.0E-44 7657534                               | NT                       |                               |                    |   |
| 51                     | 12880                 | 25508             | 2.43                 | 1.0E-44 7657534                               | NT                       |                               |                    |   |
| 666                    | 13347                 | 28675             | 2.44                 | 1.0E-44 AW852132.1                            | EST_HUMAN                |                               |                    |   |
| 1175                   | 13328                 |                   | 1.9                  | 1.0E-44 AW894803.1                            | EST_HUMAN                |                               |                    |   |
| 1567                   | 14314                 |                   | 5.78                 | 1.0E-44 AL1633903.2                           | NT                       |                               |                    |   |
| 2221                   | 14949                 | 27687             | 3.74                 | 1.0E-44 AA34554.1                             | EST_HUMAN                |                               |                    |   |
| 2221                   | 14949                 | 27688             | 3.74                 | 1.0E-44 AA34554.1                             | EST_HUMAN                |                               |                    |   |

**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|--|--------------------|
| 2280             | 15590           | 27748          | 0.96              | 1.0E-44 AA398989.1               | EST_HUMAN             | ZBBG11.1 Scores_ testis_NH-TT Homo sapiens cDNA clone IMAGE:7284765'   |                    |
| 2763             | 15488           | 28211          | 1.44              | 1.0E-44 AF186779.1               | NT                    | Homo sapiens transcription factor IGHM enhancer 3, JM11 protein, JM5 protein, T54 protein, JM10 protein, A4 differentiation-dependent protein, triple LIM domain protein 8, and synaptophysin genes, complete cds; and L-type catenatum channel 2<br>aa01c09.1 Scores_NTHMPU_ST1 Homo sapiens cDNA clone IMAGE:811984 3' |                    |
| 3712             | 16485           |                | 3.73              | 1.0E-44 AA455389.1               | EST_HUMAN             | Homo sapiens alpha satellite DNA, M1 monomer type  |                    |
| 5048             | 17767           | 30385          | 1.04              | 1.0E-44 AJ130755.1               | NT                    | Homo sapiens alpha satellite DNA, M1 monomer type  |                    |
| 5048             | 17767           | 30386          | 1.04              | 1.0E-44 AJ130755.1               | NT                    | Homo sapiens alpha satellite DNA, M1 monomer type  |                    |
| 8163             | 20857           | 33988          | 0.98              | 1.0E-44 AW987073.1               | EST_HUMAN             | EST T379147 IMAGE resequences, MAGJ Homo sapiens cDNA  |                    |
| 8163             | 20857           | 33989          | 0.98              | 1.0E-44 AW987073.1               | EST_HUMAN             | EST T379147 IMAGE resequences, MAGJ Homo sapiens cDNA  |                    |
| 8544             | 21288           | 34380          | 0.98              | 1.0E-44 AL163209.2               | NT                    | Homo sapiens chromosome 21 segment HS21C0309   |                    |
| 8824             | 21615           | 34759          | 0.69              | 1.0E-44 AI337183.1               | EST_HUMAN             | qp88g07_X1 NCI_CGAP_G08 Homo sapiens cDNA clone IMAGE:2008g028 3'  |                    |
| 10986            | 23610           |                | 4.04              | 1.0E-44 AV714608.1               | EST_HUMAN             | AV714608 DCS Homo sapiens cDNA clone DCB8BYE03 5'  |                    |
| 11516            | 24116           | 37427          | 3.92              | 1.0E-44 100922984 NT             | NT                    | Homo sapiens Sushi domain (SCR repeat) containing (BKE5A6.2), mRNA   |                    |
| 11683            | 24182           | 37498          | 3.17              | 1.0E-44 AW846987.1               | EST_HUMAN             | RC1-CT0198-150989_011-C08 CT01983 Homo sapiens cDNA  |                    |
| 11583            | 24182           | 37497          | 3.17              | 1.0E-44 AW846987.1               | EST_HUMAN             | RC1-CT0198-150989_011-C08 CT01983 Homo sapiens cDNA  |                    |
| 45389            | 17274           | 28906          | 1.38              | 9.0E-45 89222381 NT              | NT                    | Homo sapiens hypothetical protein FLJ10370 (FLJ10370), mRNA  |                    |
| 45389            | 17274           | 28907          | 1.38              | 9.0E-45 89222391 NT              | NT                    | Homo sapiens hypothetical protein FLJ10370 (FLJ10370), mRNA  |                    |
| 65522            | 183117          | 32323          | 1.31              | 9.0E-45 AB023212.1               | NT                    | Homo sapiens mRNA for KIAA0695 protein, partial cds  |                    |
| 2527             | 15243           | 27882          | 3.12              | 8.0E-45 5174718 NT               | NT                    | Homo sapiens TRK-fused gene (NOTE: non-standard symbol and name) (TFG) mRNA  |                    |
| 5023             | 17744           | 30355          | 6.41              | 8.0E-45 5174718 NT               | NT                    | Homo sapiens TRK-fused gene (NOTE: non-standard symbol and name) (TFG) mRNA  |                    |
| 6414             | 19182           | 32181          | 0.68              | 8.0E-45 AW892763.1               | EST_HUMAN             | CMD-NN0005-120300-283-509 NN0005 Homo sapiens cDNA   |                    |
| 8008             | 20701           | 33830          | 0.91              | 8.0E-45 AA377885.1               | EST_HUMAN             | EST T90883 Synovial sarcoma Homo sapiens cDNA 5' end   |                    |
| 1545             | 14291           |                | 1.01              | 6.0E-45 AI675425.1               | EST_HUMAN             | WB88g08_X1 NCI_CGAP_Pt28 Homo sapiens cDNA clone IMAGE:2313802 3' similar to contains L1.L1 repetitive element;  |                    |
| 3980             | 16709           |                | 4.09              | 6.0E-45 AW157570.1               | EST_HUMAN             | aiu83h07_X1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2782809 3' similar to SW-R13A_HUMAN P40429 60S RIBOSOMAL PROTEIN L13A ;  |                    |
| 12555            | 263378          |                | 1.65              | 6.0E-45 11418213 NT              | NT                    | Homo sapiens chromosome 21 segment HS21C003  |                    |
| 872              | 19641           |                | 1.03              | 5.0E-45 AL163203.2               | EST_HUMAN             | CM4-CN0044-180200-515-f01 CN0044 Homo sapiens cDNA   |                    |
| 1985             | 14731           | 27453          | 3.65              | 5.0E-45 BF339827.1               | EST_HUMAN             | tg94f07_X1 NCI_CGAP_CLL1 Homo sapiens cDNA clone IMAGE:2116453 3' similar to SW_PAX1_MOUSE_P08084 PAIRED BOX PROTEIN PAX-1. ;  |                    |
| 3204             | 16967           | 28621          | 1.79              | 5.0E-45 AI523788.1               | EST_HUMAN             | z72203.51 Scores_ testis_NH-TT Homo sapiens cDNA clone IMAGE:727877 3' similar to contains element TAR1 repetitive element;  |                    |
| 6426             | 18224           | 30835          | 8.76              | 5.0E-45 AA397781.1               | EST_HUMAN             | Homo sapiens MCP-1 gene and enhancer region  |                    |
| 6929             | 18713           | 31669          | 1.31              | 5.0E-45 Y18933.1                 | NT                    |  |                    |

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Table 4

Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|----------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 55229            | 18713    | 31670          | 1.31              | 5.0E-45                              | Y18933.1              | NT                      | Homo sapiens MCP-1 gene and enhancer region  |
| 55774            | 18756    | 31717          | 0.78              | 5.0E-45                              | AB022318.1            | NT                      | Homo sapiens mRNA for inducible nitric oxide synthase, complete cds  |
| 56774            | 18758    | 31718          | 0.78              | 5.0E-45                              | AB022318.1            | NT                      | Homo sapiens mRNA for inducible nitric oxide synthase, complete cds  |
| 60986            | 18874    | 31842          | 1.02              | 5.0E-45                              | 11496268              | NT                      | Homo sapiens zinc finger protein 277 (ZNF277), mRNA  |
| 60986            | 18874    | 31843          | 1.02              | 5.0E-45                              | 11496268              | NT                      | Homo sapiens zinc finger protein 277 (ZNF277), mRNA  |
| 6174             | 20898    | 34000          | 0.73              | 5.0E-45                              | 11416704              | NT                      | Homo sapiens bone morphogenetic protein 5 (BMP5), mRNA   |
| 88339            | 21630    | 34773          | 1.95              | 5.0E-45                              | 4759223               | NT                      | Homo sapiens programmed cell death 5 (PDCD5), mRNA   |
| 11697            | 24292    | 37617          | 2.59              | 5.0E-45                              | 8923698               | NT                      | Homo sapiens gdpGDP-like protein (GLP), mRNA   |
| 1121             | 13877    | 28536          | 9.58              | 4.0E-45                              | X95826.1              | NT                      | H.sapiens ART4 gene  |
| 2289             | 15014    | 27750          | 2.42              | 4.0E-45                              | BE285622.1            | EST_HUMAN               | 60119440F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:3538425 5'  |
| 8855             | 21549    |                | 0.82              | 4.0E-45                              | AA228220.1            | EST_HUMAN               | nc26807.s1 NCI_CGAP_P11 Homo sapiens cDNA clone IMAGE:1009284 similar to contains element L1 repetitive element; |
| 40686            | 16085    |                | 1.35              | 3.0E-45                              | T71480.1              | EST_HUMAN               | yd3507.1 Soares fetal liver spleen INFSL Homo sapiens cDNA clone IMAGE:110245 5'                                 |
| 6142             | 18820    | 31890          | 1.98              | 3.0E-45                              | 6753381               | NT                      | Mus musculus dynein, axon, heavy chain 11 (Drahc11), mRNA  |
| 6142             | 18920    | 31891          | 1.98              | 3.0E-45                              | 6753381               | NT                      | Mus musculus dynein, axon, heavy chain 11 (Drahc11), mRNA  |
| 8550             | 21043    |                | 1.4               | 3.0E-45                              | AV723978.1            | EST_HUMAN               | AV723978 HTB Homo sapiens cDNA clone HTBAAAG01 5'  |
| 8890             | 21382    | 34528          | 3.74              | 3.0E-45                              | 4758451               | NT                      | Homo sapiens gdpGDP-like, gdpGDP subfamily q, 2 (G0LQG2) mRNA  |
| 10206            | 22854    | 36068          | 13.43             | 3.0E-45                              | AL163227.2            | NT                      | Homo sapiens chromosome 21 segment HS21(CO27)  |
| 10206            | 22854    | 36069          | 13.43             | 3.0E-45                              | AL163227.2            | NT                      | Homo sapiens chromosome 21 segment HS21(CO27)  |
| 12670            | 25314    |                | 2.35              | 3.0E-45                              | X89211.1              | NT                      | H.sapiens DNA for endogenous retroviral like element   |
| 2508             | 15223    |                | 2.21              | 2.0E-45                              | AL163218.2            | NT                      | Homo sapiens chromosome 21 segment HS21(CO18)  |
| 3028             | 15785    | 28441          | 1.22              | 2.0E-45                              | AJ245213.1            | NT                      | Homo sapiens partial 5-HT4 receptor gene, exons 2 to 5   |
| 6428             | 10197    | 32184          | 5.15              | 2.0E-45                              | LD1685.1              | NT                      | Human astrophotil Charcot-Leyden crystal (CLC) protein (lysophospholipase) gene, promoter and exon 1             |
| 7510             | 20181    | 33274          | 1.22              | 2.0E-45                              | BE782184.1            | EST_HUMAN               | 801467793F1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE:38708338 6'   |
| 8314             | 21007    | 34145          | 0.78              | 2.0E-45                              | AW834834.1            | EST_HUMAN               | RC0-LT0001-150200-032-d11 LT0001 Homo sapiens cDNA   |
| 9485             | 22138    | 35218          | 0.48              | 2.0E-45                              | AI636798.1            | EST_HUMAN               | ts55601.x1 NCI_CGAP_Kid8 Homo sapiens cDNA clone IMAGE:22332552 3'   |
| 10705            | 25130    | 36683          | 18.23             | 2.0E-45                              | BE824350.1            | EST_HUMAN               | MRO-HT09223-180800-201-a02 HT09223 Homo sapiens cDNA   |
| 11129            | 23797    | 37073          | 4.16              | 2.0E-45                              | AA458770.1            | EST_HUMAN               | aa87F1.2 Strategene fetal retina 807292 Homo sapiens cDNA clone R-SLY1.  |
| 11488            | 24089    | 37400          | 1.76              | 2.0E-45                              | AW270280.1            | EST_HUMAN               | TR.G1144589 G1144589   |
| 11488            | 24089    | 37401          | 1.73              | 2.0E-45                              | AW270280.1            | EST_HUMAN               | xp72a03.x1 NCI_CGAP_Ov40 Homo sapiens cDNA clone IMAGE:2745883 3'  |
| 12711            | 24987    |                | 3.93              | 2.0E-45                              | 11418157              | NT                      | Homo sapiens calcium channel, voltage-dependent, alpha 1I subunit (CACNA1I), mRNA                                |
| 120              | 13185    |                | 1.8               | 1.0E-45                              | BE389865.1            | EST_HUMAN               | 601284360F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3806183 5'  |

**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe Seq ID No: | Exon Seq ID No: | ORF Seq ID No: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--|
| 400              | 13185           |                |                   | 2.17                                 | 1.0E-45 BE389855.1    | EST_HUMAN  | 601284380F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3606183 5 |
| 460              | 13245           | 25887          | 1.38              | 1.0E-45                              | 4508412 NT            | Homo sapiens RAP1A, member of RAS oncogene family (RAP1A), mRNA  |  |
| 1151             | 13908           | 28569          | 1.79              | 1.0E-45                              | 7657280 NT            | Homo sapiens cell specific c-type lectin (LANGERIN), mRNA  |  |
| 3101             | 158886          | 28507          | 7.42              | 1.0E-45 U32168.1                     | NT                    | Human pro-42 chain of collagen type XI (COL11A2) gene, complete cds  |  |
| 3483             | 16240           | 28897          | 1.38              | 1.0E-45                              | 8856558 NT            | Homo sapiens chromosome 21 open reading frame 1 (C21orf4), mRNA  |  |
| 3950             | 16315           | 28962          | 1.18              | 1.0E-45 AB048811.1                   | NT                    | Homo sapiens mRNA for KIAA1581 protein, partial cds  |  |
| 4442             | 17178           | 28804          | 5.01              | 1.0E-45 BE388633.1                   | EST_HUMAN             | 60128911GF1 NIH_MGC_8 Homo sapiens cDNA clone IMAGE:3619803 5  |  |
| 4877             | 17411           |                | 1.04              | 1.0E-45 H57443.1                     | EST_HUMAN             | y0560271 Soay sheep fetal liver spleen 1NFLS_Homo sapiens cDNA clone IMAGE:204963 5                                    |  |
| 7830             | 20625           | 33752          | 0.77              | 1.0E-45                              | 11422236 NT           | Homo sapiens periodontal biogenesis factor 14 (PEX14), mRNA  |  |
| 7830             | 20625           | 33753          | 0.77              | 1.0E-45                              | 11422236 NT           | Homo sapiens periodontal biogenesis factor 14 (PEX14), mRNA  |  |
| 8505             | 21197           | 34341          | 0.96              | 1.0E-45 D87675.1                     | NT                    | Homo sapiens DNA for amyloid precursor protein, complete cds   |  |
| 9019             | 21709           | 34861          | 5.08              | 1.0E-45 BE587943.1                   | EST_HUMAN             | 601511228F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:381285 5  |  |
| 9422             | 22100           | 35272          | 1.22              | 1.0E-45 AB002287.1                   | NT                    | Human mRNA for KIAA0289 gene, partial cds  |  |
| 11734            | 24327           | 37851          | 1.33              | 1.0E-45                              | 7019570 NT            | Homo sapiens alpha-catenin-like protein (VR22), mRNA   |  |
| 12087            | 24592           | 31125          | 6.83              | 1.0E-45                              | 11418089 NT           | Homo sapiens protein kinase C, alpha binding protein (PRKCABP), mRNA   |  |
| 12263            | 24708           |                | 11.18             | 1.0E-45                              | 11526291 NT           | Homo sapiens hypothetical protein FLJ20464 (FLJ20464), mRNA  |  |
| 12269            | 24711           | 5226           | 1.0E-45           |                                      | 11418177 NT           | Homo sapiens Ran GTPase activating protein 1 (RANGAP1), mRNA   |  |
| 12880            | 24889           | 30981          | 2.6               | 1.0E-45                              | 11418157 NT           | Homo sapiens calcium channel, voltage-dependent, alpha 1I subunit (CACNA1I), mRNA                                      |  |
| 8127             | 20321           | 33958          | 1.7               | 9.0E-46                              | 9910283 NT            | Mus musculus keratin complex 2, gene 8g (Krt2-8g), mRNA  |  |
| 8532             | 21224           |                | 5.96              | 9.0E-46 AL163209.2                   | NT                    | Homo sapiens chromosome 21 segment HS21C009  |  |
| 10378            | 23024           | 36239          | 11.23             | 9.0E-46 AW246984.1                   | EST_HUMAN             | 2822449_Sprine NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2822449 5'  |  |
| 2443             | 15182           | 27898          | 13.63             | 8.0E-46 AI433261.1                   | EST_HUMAN             | #3208.x1 NCI CGAP_Gas4 Homo sapiens cDNA clone IMAGE:2132189 3' similar to gb:J00314_mz2                               |  |
| 2443             | 15162           | 27900          | 13.53             | 8.0E-46 AI433261.1                   | EST_HUMAN             | TUBULIN BETA-1 CHAIN (HUMAN); #3208.x1 NCI CGAP_Gas4 Homo sapiens cDNA clone IMAGE:2132189 3' similar to gb:J00314_mz2 |  |
| 7953             | 20848           |                | 5.69              | 8.0E-46 BE167244.1                   | EST_HUMAN             | RC5-HT0506-280/200-012-C12 HT0508 Homo sapiens cDNA  |  |
| 22232            | 14980           | 27700          | 1.03              | 7.0E-46 U46007.1                     | NT                    | Rattus norvegicus espin mRNA, complete cds   |  |
| 4541             | 17276           |                | 3.38              | 7.0E-46 BE386165.1                   | EST_HUMAN             | 601277292F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:3618119 5'  |  |
| 4755             | 17487           |                | 1.33              | 7.0E-46 BE084386.1                   | EST_HUMAN             | RC4-BT0310-110300-015-f10 BT0310 Homo sapiens cDNA   |  |
| 5661             | 18733           | 31692          | 4.01              | 7.0E-46                              | 8922708 NT            | Hom sapiens hypothetical protein FLJ10847 (FLJ10847), mRNA   |  |
| 8402             | 19171           | 32170          | 1.14              | 7.0E-46 BF105845.1                   | EST_HUMAN             | 601822835F1 NIH_MGC_77 Homo sapiens cDNA clone IMAGE:4042738 5'  |  |
| 2759             | 15484           | 28207          | 3.89              | 6.0E-46 AI893381.1                   | EST_HUMAN             | WMS1108.x1 NCI CGAP_Uk4 Homo sapiens cDNA clone IMAGE:2437576 3' similar to contains MER19 repetitive element;         |  |

Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
|                  |                 |                |                   |                                      |                       |                         | wm31f08_x1_NCI_CGAP_Ut4_Homo_sapiens cDNA clone IMAGE:2497575 3' similar to contains MER19_12      |
| 2759             | 15464           | 28208          | 3.99              | 8.0E-46                              | AI884381.1            | EST_HUMAN               | MER19 repetitive element;  |
| 6038             | 18818           | 31778          | 10.94             | 8.0E-46                              | AI835448.1            | EST_HUMAN               | ts58H10_x1_NCI_CGAP_Kd8_Homo_sapiens cDNA clone IMAGE:2232835 3' similar to TR:O80363_O80363       |
| 7116             | 18804           | 32868          | 0.72              | 8.0E-46                              | AW513244.1            | EST_HUMAN               | PROTEIN HOMOLOG 2 (HUMAN);   |
| 11384            | 23175           |                | 2.04              | 8.0E-46                              | BE784971.1            | EST_HUMAN               | 60147840f1_NIH_MGC_68_Homo_sapiens cDNA clone IMAGE:3880995 5'                                     |
| 198              | 13012           |                | 8.9               | 5.0E-46                              | AL163210.2            | NT                      | Homo sapiens chromosome 21 segment HS21C010  |
| 3519             | 16275           | 28929          | 1.07              | 5.0E-46                              | BE677194.1            | EST_HUMAN               | 7db1g01_x1_Lipsk_dorsal_root_ganglion_Homo_sapiens cDNA clone IMAGE:3278408 3'                     |
| 3519             | 16275           | 28930          | 1.07              | 5.0E-46                              | BE677194.1            | EST_HUMAN               | 7db1g01_x1_Lipsk_dorsal_root_ganglion_Homo_sapiens cDNA clone IMAGE:3278408 3'                     |
| 6836             | 18298           | 32413          | 1.98              | 6.0E-46                              | BF580442.1            | EST_HUMAN               | nae88f07_x1_NCI_CGAP_Kdh1_Homo_sapiens cDNA clone IMAGE:3258757 3' similar to TR:O785202           |
| 6842             | 18542           | 32570          | 4.29              | 5.0E-46                              | BF347229.1            | EST_HUMAN               | 075202_HOMOLOG OF RAT KIDNEY-SPECIFIC:   |
| 6895             | 18687           | 32738          | 0.62              | 6.0E-46                              | AW582253.1            | EST_HUMAN               | 602021164f1_NCI_CGAP_Bm67_Homo_sapiens cDNA clone IMAGE:4156870 5'                                 |
| 9516             | 22168           | 36350          | 0.47              | 5.0E-46                              | AA308381.1            | EST_HUMAN               | QY4-ST0212-120100-075-108_ST0212_Homo_sapiens cDNA   |
| 6228             | 13405           |                | 1.4               | 4.0E-46                              | AA6011143.1           | EST_HUMAN               | 262c08_51_Sorens_tests_NHT_Homo_sapiens cDNA clone IMAGE:726928 3'                                 |
| 1099             | 14442           | 27140          | 6.86              | 4.0E-46                              | AW770544.1            | EST_HUMAN               | nae64d09_81_NCI_CGAP_SS1_Homo_sapiens cDNA clone IMAGE:1104520 3' similar to gb:X637741_maf1       |
|                  |                 |                |                   |                                      |                       |                         | FIBULIN-1, ISOFORM A PRECURSOR (HUMAN);  |
|                  |                 |                |                   |                                      |                       |                         | nae88d03_x1_NCI_CGAP_Lu24_Homo_sapiens cDNA clone IMAGE:3008838 3' similar to gb:X14008_maf1       |
|                  |                 |                |                   |                                      |                       |                         | LYSOZYME C PRECURSOR (HUMAN);contains element MER37 repetitive element;                            |
| 1699             | 14442           | 27141          | 6.86              | 4.0E-46                              | AW770544.1            | EST_HUMAN               | nae88c03_x1_NCI_CGAP_Lu24_Homo_sapiens cDNA clone IMAGE:3008838 3' similar to gb:X14008_maf1       |
| 2743             | 15449           | 28188          | 2.82              | 4.0E-46                              | MT8048.1              | NT                      | Human endogenous retrovirus RTV-L-H2   |
| 4384             | 17121           | 28763          | 1.04              | 4.0E-46                              | AB014522.1            | NT                      | Homo sapiens mRNA for KIAA0822 protein, partial cds  |
| 4384             | 17121           | 28754          | 1.04              | 4.0E-46                              | AB014522.1            | NT                      | Homo sapiens mRNA for KIAA0822 protein, partial cds  |
| 5350             | 18153           | 30834          | 2.43              | 4.0E-46                              | M38852.1              | NT                      | Human Ig germline gamma-3 heavy-chain gene V region, partial cds                                   |
| 5350             | 18153           | 30835          | 2.43              | 4.0E-46                              | M38852.1              | NT                      | Human Ig germline gamma-3 heavy-chain gene V region, partial cds                                   |
| 12513            | 24863           | 31014          | 2.71              | 4.0E-46                              | AB002059.1            | NT                      | Homo sapiens DNA for Human P2XW, complete cds  |
| 2155             | 14885           | 27618          | 0.9               | 3.0E-46                              | 5453620               | NT                      | Homo sapiens solute carrier family 35 (CMF-stilic acid transporter), member 1 (SLC35A1), mRNA      |
| 2429             | 16150           | 27884          | 0.96              | 3.0E-46                              | AF160212.1            | NT                      | Homo sapiens VAMP-associated 33 kDa protein mRNA, complete cds                                     |
| 4382             | 17100           | 29735          | 0.79              | 3.0E-46                              | 4506376               | NT                      | Homo sapiens mitogen-activated protein kinase kinase kinase kinase 3 (MAP4K3), mRNA                |
| 4724             | 17456           | 30691          | 1.2               | 3.0E-46                              | Z73680.1              | NT                      | H_sapiens Ig lambda light chain variable region gene (7c.11.2) germline; Ig-Light-Lambda; V_lambda |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Top Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|-----------------------|-----------------------|-------------------------|---|
| 4724             | 17458           | 30092          | 1.2               | 3.0E-48               | Z73880_1              | NT                      | H_sapiens Ig lambda light chain variable region gene (7c.11.2) germline Ig-Light-Lambda; V_lambda W49c04_x1 NCI_CGAP_Lu19 Homo sapiens cDNA clone IMAGE:2406160 3' similar to contains THR.b2 THR repetitive element; |
| 8847             | 21339           | 34483          | 7.89              | 3.0E-46               | AI831482_1            | EST_HUMAN               | Human mRNA for KIAA0061 gene, partial cds   |
| 11684            | 24163           | 37474          | 2.19              | 3.0E-46               | D31785_1              | NT                      | neo6a08_51 NCI_CGAP_C63 Homo sapiens cDNA clone IMAGE:880408 3' similar to contains THR.b2 THR repetitive element;  |
| 817              | 13588           | 28255          | 7.84              | 2.0E-46               | AA468864_1            | EST_HUMAN               | z127fer1.51 Seares_fetal_liver_spleen_1NFLS_S1 Homo sapiens cDNA clone IMAGE:431988 3'  |
| 1554             | 14301           |                | 1.55              | 2.0E-46               | AA467824_1            | EST_HUMAN               | Homo sapiens Bruton's tyrosine kinase (BTK), alpha-D-galactosidase A (GLA), L44-Ile ribosomal protein (L44I) and FTP3 (FTP3) genes, complete cds  |
| 1637             | 14383           | 27070          | 3.43              | 2.0E-46               | U78027_1              | NT                      | z158e02_171 Seares_testis_NHT Homo sapiens cDNA clone IMAGE:728850 5' similar to SW.RSP1_MOUSE Q01730_RSP-1 PROTEIN ;   |
| 4917             | 17845           | 30258          | 1.2               | 2.0E-46               | AA399288_1            | EST_HUMAN               | Mus musculus sperm tail associated protein (Smap), mRNA   |
| 7384             | 20884           | 33142          | 7.67              | 2.0E-46               | 8910589               | NT                      | 601445137F1 NIH_MGC_65 Homo sapiens cDNA clone IMAGE:3849287 5'   |
| 7868             | 20683           |                | 1.46              | 2.0E-46               | BE889151_1            | EST_HUMAN               | y32601_171 Seares_fetal_liver_spleen_1NFLS Homo sapiens cDNA clone IMAGE:2068977 5'   |
| 12257            | 25179           |                | 1.5               | 2.0E-46               | HA8891                | EST_HUMAN               | x078f03_x1 NCI_CGAP_Lu34 Homo sapiens cDNA clone IMAGE:2758789 3'   |
| 12575            | 25170           | 30802          | 3.38              | 2.0E-46               | AW27724_1             | EST_HUMAN               | Homo sapiens cell division cycle 10 (homologous to CDC10 of S. cerevisiae) (CDC10) mRNA   |
| 12111            | 13961           | 26623          | 7.67              | 1.0E-46               | 45026894              | NT                      | Homo sapiens KIAA0555 gene product (KIAA0555), mRNA   |
| 1566             | 14313           | 26996          | 1.23              | 1.0E-46               | 7682177               | NT                      | Homo sapiens KIAA0555 gene product (KIAA0555), mRNA   |
| 1563             | 14313           | 27000          | 1.23              | 1.0E-46               | 7682177               | NT                      | EST380625 MAGE sequences, MAGP Homo sapiens cDNA EST48b085 WATM1 Homo sapiens cDNA clone 48b085   |
| 2279             | 16005           | 27745          | 3.44              | 1.0E-46               | AW978516_1            | EST_HUMAN               | EST48b085 WATM1 Homo sapiens cDNA clone 48b085  |
| 2389             | 15120           | 27857          | 3.06              | 1.0E-46               | HA97330_1             | EST_HUMAN               | np78b02_51 NCI_CGAP_Pt2 Homo sapiens cDNA clone IMAGE:113295 similar to g0J7671H_sapiens MT-11 mRNA. (HUMAN);   |
| 3243             | 16005           | 28854          | 4.55              | 1.0E-46               | AA631912_1            | EST_HUMAN               | Homo sapiens mRNA for KIAA0380 protein, partial cds   |
| 4819             | 17549           |                | 3.17              | 1.0E-46               | AB023197_1            | NT                      | 7682601_1 NCI_CGAP_Ov18 Homo sapiens cDNA clone IMAGE:38443705 3'   |
| 5613             | 18409           | 31322          | 6.88              | 1.0E-46               | BF194707_1            | EST_HUMAN               | Homo sapiens centaurin-alpha 2 protein (I-Sa272/165), mRNA  |
| 5888             | 25080           | 31617          | 6.14              | 1.0E-46               | 8923762               | NT                      | Homo sapiens centaurin-alpha 2 protein (I-Sa272/165), mRNA  |
| 6888             | 26080           | 31618          | 6.14              | 1.0E-46               | 8923762               | NT                      | 7682601_1 NCI_CGAP_Ov18 Homo sapiens cDNA clone IMAGE:36443705 3'   |
| 10770            | 18409           | 31322          | 5.27              | 1.0E-46               | BF194707_1            | EST_HUMAN               | d5f50d3_11 Morton_Fetal_Cochlea_Homo_sapiens_cDNA_clone IMAGE:2488861 5'  |
| 11747            | 24338           | 37665          | 1.53              | 1.0E-46               | AW023178_1            | EST_HUMAN               | d5f50d3_11 Morton_Fetal_Cochlea_Homo_sapiens_cDNA_clone IMAGE:2488861 5'  |
| 11747            | 24938           | 37666          | 1.53              | 1.0E-46               | AW023178_1            | EST_HUMAN               | 602072284F1 NCI_CGAP_Bm87 Homo sapiens cDNA clone IMAGE:4215398 5'  |
| 12044            | 24584           | 31115          | 2.28              | 1.0E-46               | BF631102_1            | EST_HUMAN               | 602072284F1 NCI_CGAP_Bm87 Homo sapiens cDNA clone IMAGE:4215398 5'  |
| 12044            | 24584           | 31116          | 2.28              | 1.0E-46               | BF531102_1            | EST_HUMAN               | AV716377 DCB Homo sapiens cDNA clone DCBAIE03 5'  |
| 12778            | 25032           |                | 2.37              | 1.0E-46               | AV715377_1            | EST_HUMAN               | Homo sapiens Xq pseudautosomal region, segment 1/2  |
| 750              | 13522           |                | 6.18              | 9.0E-47               | AJ271735_1            | NT                      |   |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value                 | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--|-----------------------|---|---|
| 4879             | 17606           | 30229          | 3.02              | 9.0E-47  | AW770928.1            | EST_HUMAN   | H63ed04_x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3009534 3' similar to TR:075703 075703 HYPOTHETICAL 12.4 KD PROTEIN. |
| 6284             | 19057           | 32037          | 0.6               | 9.0E-47  | 11425439 NT           | Homo sapiens zinc finger protein ZNF288 (ZNF286), mRNA  | Homo sapiens SEC14 (S. cerevisiae)-like 2 (SEC14L2), mRNA   |
| 12831            | 25270           | 30725          | 2                 | 9.0E-47  | 11417986 NT           | Homo sapiens SEC14 (S. cerevisiae)-like 2 (SEC14L2), mRNA                                       | Homo sapiens HLAC gene, exon 5, Individual 18323  |
| 1801             | 14541           | 27252          | .6.88             | 8.0E-47  | Y18536.1              | NT  | Homo sapiens HLAC gene, exon 5, Individual 18323  |
| 1801             | 14541           | 27253          | .6.88             | 8.0E-47  | Y18536.1              | NT  | Homo sapiens HLAC gene, exon 5, Individual 18323  |
| 2722             | 15429           | 28167          | 1.04              | 8.0E-47  | 6453866 NT            | Homo sapiens protein phosphatase 2, regulatory subunit B (B56), epsilon isoform (PPP2R5E), mRNA | Homo sapiens protein phosphatase 2, regulatory subunit B (B56), epsilon isoform (PPP2R5E), mRNA                             |
| 3024             | 15780           | 28438          | 1.89              | 8.0E-47  | AJ229048.1            | NT  | Homo sapiens 959 kb contig between AML1 and CBR1 on chromosome 21(q22, segment 373  |
| 36113            | 183686          | 29009          | 0.88              | 8.0E-47  | AB041928.1            | NT  | Homo sapiens mRNA for GCK family kinase MINK-2, complete cds  |
| 36113            | 183686          | 29010          | 0.88              | 8.0E-47  | AB041928.1            | NT  | Homo sapiens mRNA for GCK family kinase MINK-2, complete cds  |
| 12604            | 25169           | 1.38           | 7.0E-47           | AV683284 GCK Homo sapiens cDNA clone GKCASH11 6' | EST_HUMAN             | AV683284 GCK Homo sapiens cDNA clone GKCASH11 6'  | AV683284 GCK Homo sapiens cDNA clone GKCASH11 6'  |
| 2650             | 15285           | 28600          | 1.88              | 6.0E-47  | AL163248.2            | NT  | Homo sapiens chromosome 21 segment HS21C046   |
| 8582             | 21284           | 34423          | 0.49              | 6.0E-47  | U77054.1              | EST_HUMAN   | HSU77054 Human Homo sapiens cDNA clone IMAGE:2296859 3'   |
| 976              | 21848           | 35012          | 0.78              | 6.0E-47  | AI685189.1            | EST_HUMAN   | Iz88h02_x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone recQ5 beta, complete cds  |
| 8612             | 22265           | 35450          | 0.88              | 6.0E-47  | AB042824.1            | NT  | Homo sapiens RECQL5 beta mRNA for DNA helicase recQ5 beta, complete cds   |
| 8612             | 22265           | 36451          | 0.88              | 6.0E-47  | AB042824.1            | NT  | Homo sapiens RECQL5 beta mRNA for DNA helicase recQ5 beta, complete cds   |
| 6482             | 19249           | 32248          | 6.87              | 5.0E-47  | 11423972 NT           | EST_HUMAN   | Homo sapiens CDC37 (cell division cycle 37, S. cerevisiae, hamdog) (CDC37), mRNA  |
| 10696            | 23387           |                | 5.27              | 6.0E-47  | M78590.1              | EST_HUMAN   | EST00738 Fetal brain, Stratagene (cat#836208) Homo sapiens cDNA clone HFBCF07   |
| 1378             | 14123           | 28801          | 3.29              | 4.0E-47  | 4557556 NT            | Homo sapiens E1A binding protein p300 (EP300) mRNA  | Homo sapiens E1A binding protein p300 (EP300) mRNA  |
| 6753             | 19567           | 32659          | 1.9               | 4.0E-47  | BE388898.1            | EST_HUMAN   | MR4-TN108-280800-201-d04 TN108 Homo sapiens cDNA  |
| 8379             | 21072           | 34210          | 2.42              | 4.0E-47  | BE616483.1            | EST_HUMAN   | Q164252 VIRAL INTEGRATION SITE PROTEIN INT-8. [1];  |
| 8379             | 21072           | 34211          | 2.42              | 4.0E-47  | BE616483.1            | EST_HUMAN   | 601280488F1 NIH_MGC_39 Homo sapiens cDNA clone IMAGE:3622497 5'   |
| 8516             | 21268           | 34351          | 0.61              | 4.0E-47  | AW989377.1            | EST_HUMAN   | 601280488F1 NIH_MGC_39 Homo sapiens cDNA clone IMAGE:3622497 5'   |
| 11635            | 24232           |                | 2.83              | 4.0E-47  | AW515609.1            | EST_HUMAN   | 601497639F1 NIH_MGC_70 Homo sapiens cDNA clone IMAGE:3899721 5'   |
| 631              | 13315           | 25850          | 2.05              | 3.0E-47  | BE907634.1            | EST_HUMAN   | 601497639F1 NIH_MGC_70 Homo sapiens cDNA clone IMAGE:3899721 5'   |
| 789              | 13571           | 26232          | 6.45              | 3.0E-47  | N57483.1              | EST_HUMAN   | 601497639F1 NIH_MGC_70 Homo sapiens cDNA clone IMAGE:3899721 5'   |
| 924              | 13691           | 26355          | 10.25             | 3.0E-47  | AL1683284.2           | NT  | Homo sapiens glutamate receptor, ionotropic, kainate 1 (GRIK1) mRNA   |
| 3290             | 16058           | 28707          | 0.79              | 3.0E-47  | 4504116 NT            | Homo sapiens glutamate receptor, ionotropic, kainate 1 (GRIK1) mRNA                             | Homo sapiens glutamate receptor, ionotropic, kainate 1 (GRIK1) mRNA   |
| 3949             | 16698           |                | 5.77              | 3.0E-47  | U93181.1              | NT  | Homo sapiens nuclear dual-specificity phosphatase (SBFI) mRNA, partial cds  |
| 4329             | 17068           | 28698          | 1.32              | 3.0E-47  | M12659.1              | NT  | Human T-cell receptor active alpha-chain mRNA from JH cell line, complete cds   |
| 5922             | 18707           | 31659          | 5.41              | 3.0E-47  | AW408800.1            | EST_HUMAN   | U-HFBM10-sek-d-07-0-U1,N NIH_MGC_38 Homo sapiens cDNA clone IMAGE:3063205 5'  |

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Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|---|
| 6922             | 18707           | 31660          | 5.41              | 3.0E-47                          | AW08800.1             | EST_HUMAN               | UHF-BM0-adv-d-07-0-U1_r1 NIH_MGC_38 Homo sapiens cDNA clone IMAGE:3083205 5'  |
| 6469             | 19236           |                | 1.76              | 3.0E-47                          | A122243.1             | EST_HUMAN               | 0104e07_x1 Soares_S1_Homo sapiens cDNA clone IMAGE:1848716 3'   |
| 9732             | 21424           | 34569          | 0.71              | 3.0E-47                          | AW083788.1            | EST_HUMAN               | EST375869 MAGE sequences, MAGH Homo sapiens cDNA  |
| 9732             | 21424           | 34570          | 0.71              | 3.0E-47                          | AW083788.1            | EST_HUMAN               | EST375869 MAGE sequences, MAGH Homo sapiens cDNA  |
| 143              | 12958           | 26600          | 1.61              | 2.0E-47                          | 4505318.1             | NT                      | Homo sapiens myosin phosphatase, target subunit 2 (MPT2), mRNA  |
| 947              | 13713           | 28377          | 2.69              | 2.0E-47                          | AL163208.2            | NT                      | Homo sapiens chromosome 21 segment HS21C009   |
| 947              | 13713           | 28378          | 2.69              | 2.0E-47                          | AL163208.2            | NT                      | Homo sapiens chromosome 21 segment HS21C009   |
| 1580             | 14207           |                | 0.98              | 2.0E-47                          | AI069279.1            | EST_HUMAN               | wg68b02_x1 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE:2479881 3'  |
| 1588             | 14334           | 27022          | 1.75              | 2.0E-47                          | 7882109               | NT                      | Homo sapiens KIAA0428 gene product (KIAA0428), mRNA   |
| 1673             | 14418           | 27111          | 3.41              | 2.0E-47                          | AA524514.1            | EST_HUMAN               | ng43h12_s1 NCI_CGAP_C63 Homo sapiens cDNA clone IMAGE:937607 3'   |
| 4313             | 17052           | 28877          | 2                 | 2.0E-47                          | 4504866               | NT                      | Homo sapiens ring finger protein (C3HC4 type) 8 (RNF8), mRNA  |
| 4351             | 17090           | 28722          | 1.6               | 2.0E-47                          | AA569892.1            | EST_HUMAN               | nt23g07_s1 NCI_CGAP_Pt1 Homo sapiens cDNA clone IMAGE:914652  |
| 4351             | 17090           | 28723          | 1.5               | 2.0E-47                          | AA569892.1            | EST_HUMAN               | nt23g07_s1 NCI_CGAP_Pt1 Homo sapiens cDNA clone IMAGE:914652  |
| 4471             | 17206           | 28832          | 1.68              | 2.0E-47                          | 5174648               | NT                      | Homo sapiens Rev/Rex activation domain binding protein-related (RAB-R) mRNA   |
| 4761             | 17493           | 30121          | 1.3               | 2.0E-47                          | AW0885168.1           | EST_HUMAN               | EST377239 MAGE sequences, MAGI Homo sapiens cDNA  |
| 5898             | 18490           | 31411          | 1.12              | 2.0E-47                          | AF073921.1            | NT                      | Homo sapiens regulator of G-protein signaling 6 variant form (RGS6) mRNA, complete cds                                |
| 5887             | 18673           | 31615          | 1.23              | 2.0E-47                          | BE778475.1            | EST_HUMAN               | 601463582F1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE:38867487 5'  |
| 5887             | 18673           | 31616          | 1.23              | 2.0E-47                          | BE778476.1            | EST_HUMAN               | 601463582F1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE:38867487 5'  |
| 7598             | 25116           |                | 1.43              | 2.0E-47                          | L09731.1              | NT                      | Homo sapiens 5-hydroxytryptamine 1D receptor pseudogene with an Alu repeat insertion                                  |
| 7884             | 20559           | 33885          | 1.82              | 2.0E-47                          | D87675.1              | NT                      | Homo sapiens DNA for amyloid precursor protein, complete cds  |
| 7884             | 20559           | 33688          | 1.82              | 2.0E-47                          | D87675.1              | NT                      | Homo sapiens DNA for amyloid precursor protein, complete cds  |
| 8818             | 21310           | 34452          | 1.67              | 2.0E-47                          | AF071771.1            | NT                      | Homo sapiens SPH-binding factor mRNA, partial cds   |
| 9389             | 22051           | 35222          | 0.77              | 2.0E-47                          | 11526136              | NT                      | Homo sapiens BTG family member 3 (BTG3), mRNA   |
| 11451            | 23218           | 36451          | 1.27              | 2.0E-47                          | M78125.1              | NT                      | Human tyrosine kinase receptor (ad) mRNA, complete cds  |
| 12077            | 25312           | 30709          | 1.75              | 2.0E-47                          | R42423.1              | EST_HUMAN               | y92a08_s1 Soares infant brain 1NIB Homo sapiens cDNA clone IMAGE:28888 3' similar to contains OFR repetitive element; |
| 1384             | 14131           | 26804          | 7.35              | 1.0E-47                          | A1333428.1            | EST_HUMAN               | 0104e07_x1 Soares_fetal_lung_NbHL19W Homo sapiens cDNA clone IMAGE:1821189 3'   |
| 5017             | 17738           | 30347          | 1.86              | 1.0E-47                          | AW813906.1            | EST_HUMAN               | RC3-S10197-150400-017-402 ST0197 Homo sapiens cDNA  |
| 6844             | 19428           | 32441          | 6.79              | 1.0E-47                          | AI880888.1            | EST_HUMAN               | 611900_x1 Barstead_bartha HPLB8 Homo sapiens cDNA clone IMAGE:22665588 3' similar to gb:M22395                        |
| 8767             | 21459           |                | 0.56              | 1.0E-47                          | AW084648.1            | EST_HUMAN               | h84611_x1 Soares_NFL_T_GBC_S1_Homo sapiens cDNA clone IMAGE:2978972 3' similar to gb:M26326                           |
| 10254            | 22802           | 36112          | 2.28              | 1.0E-47                          | L30115.1              | NT                      | Papio hamadryas electric dihydrogenase class I (ADH) gene, 5' region  |

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**Table 4**  
**Single Exon Probes Expressed In Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|---|---|
|                  |                 |                |                   |                            |                       |   | Homo sapiens calcium channel alpha1E subunit (CACNA1E) gene, exons 7-49, and partial cds, alternatively spliced   |
| 1007             | 14353           | 27041          | 3.03              | 9.0E-48                    | AF223391.1            | NT  |   |
| 3544             | 16289           | 28950          | 0.82              | 9.0E-48                    | BF358947.1            | EST_HUMAN   | CN2-MT0100-310700-280-05 MT0100 Homo sapiens cDNA   |
| 5594             | 18389           | 31289          | 0.86              | 9.0E-48                    | BE888198.1            | EST_HUMAN   | 601511714F1 NIH_3T3 clone IMAGE:3913108 5'  |
| 6594             | 18389           | 31300          | 0.86              | 9.0E-48                    | BE888198.1            | EST_HUMAN   | 601511714F1 NIH_3T3 clone IMAGE:3913108 5'  |
| 6010             | 18791           | 31754          | 0.66              | 9.0E-48                    | AJ833168.1            | EST_HUMAN   | 676H08-2x1 Barebacked cDNA clone IMAGE:2377889 3' similar to TR-080844  |
| 6131             | 18809           | 31877          | 0.64              | 9.0E-48                    | AJ1123240.1           | EST_HUMAN   | 080844 HOMOLOG OF RAT ZYMOGEN GRANULE MEMBRANE PROTEIN. ; AU123240 NT2RM1 Homo sapiens cDNA clone NT2RM1000978 5'   |
| 11060            | 23170           | 37002          | 3.09              | 9.0E-48                    | BE3983813.1           | EST_HUMAN   | 601310478F1 NIH_3T3 clone IMAGE:3682083 5'  |
| 1228             | 13978           |                | 1.44              | 8.0E-48                    | 4501800 NT            | Homo sapiens aminoacylase 1 (ACY1), mRNA                                  |   |
| 1229             | 13978           |                | 1.7               | 8.0E-48                    | 4501800 NT            | Homo sapiens aminoacylase 1 (ACY1), mRNA                                  |   |
| 3132             | 16897           | 28541          | 4.38              | 8.0E-48                    | AW788477.1            | EST_HUMAN   | hk61b03.x1 NCI CGAP Lym12 Homo sapiens cDNA clone IMAGE:3001133 3' similar to gb:X64707   |
| 3132             | 16897           | 28542          | 4.38              | 8.0E-48                    | AW788477.1            | EST_HUMAN   | BREAST BASIC CONSERVED PROTEIN 1 (HUMAN); hk61b03.x1 NCI CGAP Lym12 Homo sapiens cDNA clone IMAGE:3001133 3' similar to gb:X64707                           |
| 3611             | 16881           | 289302         | 0.79              | 8.0E-48                    | 4504116 NT            | Homo sapiens mRNA for KIAA1209 protein, partial cds                       |   |
| 478              | 13284           |                | 1.27              | 7.0E-48                    | AB033035.1            | NT  | Homo sapiens mRNA for KIAA1209 protein, partial cds   |
| 479              | 13284           |                | 17.98             | 7.0E-48                    | AB033035.1            | NT  | Homo sapiens taurine-like kinase 1 (TLK1), mRNA   |
| 1483             | 14230           | 28916          | 0.98              | 7.0E-48                    | 6912719 NT            | Homo sapiens SET domain and maltein transposase fusion gene (SETMAR) mRNA |   |
| 1624             | 14380           | 27067          | 3.99              | 7.0E-48                    | 5730038 NT            | Homo sapiens histidine-RNA synthetase (HARS), mRNA                        |   |
| 8460             | 19227           | 32227          | 27.21             | 7.0E-48                    | 11416831 NT           | Homo sapiens mRNA for AIE-75, complete cds                                |   |
| 5697             | 18749           | 31710          | 0.91              | 6.0E-48                    | AB008955.1            | NT  | Homo sapiens mRNA for KIAA1624 protein, partial cds   |
| 6898             | 19605           | 32845          | 1.08              | 6.0E-48                    | 11420886 NT           | Homo sapiens BMX non-receptor tyrosine kinase (BMX), mRNA                 |   |
| 7365             | 25114           | 33123          | 0.68              | 6.0E-48                    | AB046844.1            | NT  | Homo sapiens mRNA for KIAA1624 protein, partial cds   |
| 7365             | 25111           | 33124          | 0.58              | 6.0E-48                    | AB046844.1            | NT  | Homo sapiens mRNA for KIAA1624 protein, partial cds   |
| 8022             | 21712           | 34968          | 2.07              | 6.0E-48                    | AF026816.1            | NT  | Homo sapiens putative oncogene protein mRNA, partial cds  |
| 9441             | 22118           | 35298          | 1.74              | 6.0E-48                    | 11427428 NT           | Homo sapiens hypothetical protein FLJ11006 (FLJ11006), mRNA               |   |
| 9558             | 22241           | 35425          | 3.2               | 6.0E-48                    | AA158080.1            | EST_HUMAN   | HK4508-51 Stratagene hNT neuron (#837223) Homo sapiens cDNA clone IMAGE:832827 3' similar to zta-1 Alu repetitive element, contains Alu repetitive element, |
| 3304             | 17878           | 28713          | 1.94              | 5.0E-48                    | 4828891               | NT  | Homo sapiens phosphodiesterase 1A, calmodulin-dependent (PDE1A) mRNA  |
| 8474             | 21168           | 34310          | 1.25              | 5.0E-48                    | BE084410.1            | EST_HUMAN   | RC4-BT0311-141199-011-h08 BT0311 Homo sapiens cDNA  |
| 11613            | 24202           | 37524          | 1.39              | 5.0E-48                    | AW890298.1            | EST_HUMAN   | MRD-NT0339-010500-002-f08 NT0339 Homo sapiens cDNA  |
| 10878            | 23553           | 36805          | 3.96              | 4.0E-48                    | AJ620420.1            | EST_HUMAN   | h47a022-x1 NCI CGAP Pr-28 Homo sapiens cDNA clone IMAGE:2254154 3'  |
| 1384             | 14112           | 26788          | 1.27              | 3.0E-48                    | AV680964.1            | EST_HUMAN   | AV680964 GKC Homo sapiens cDNA clone GKCDRE12 5'  |

**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe Seq ID No: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--------------------|
| 1869             | 14705           | 27422          | 15.28             | 3.0E-48                              | 4885170 NT            | Homo sapiens chromosome X open reading frame 6 (CXorf6) mRNA   |                    |
| 1869             | 14705           | 27423          | 15.26             | 3.0E-48                              | 4885170 NT            | Homo sapiens chromosome X open reading frame 6 (CXorf6) mRNA   |                    |
| 3622             | 16375           | 28017          | 0.76              | 3.0E-48 AW084631.1                   | EST_HUMAN             | h14p12.x1 NCI_CGAP_GU1 Homo sapiens cDNA clone IMAGE:2372255 3' similar to SW:DCRB_JHUMAN P56555 DOWN SYNDROME CRITICAL REGION PROTEIN B.;                       |                    |
| 8804             | 163894          | 31519          | 2.47              | 3.0E-48 BE084571.1                   | EST_HUMAN             | MR:BT0657-080400-201-e10 BT0657 Homo sapiens cDNA  |                    |
| 8919             | 19855           | 32701          | 0.94              | 3.0E-48 AF087913.1                   | NT                    | Human endogenous retrovirus HERV-P-T47D  |                    |
| 8280             | 20884           |                | 3.41              | 3.0E-48 AA659930.1                   | EST_HUMAN             | m03f05.s1 NCI_CGAP_P722 Homo sapiens cDNA clone IMAGE:1218137 3' similar to contains PTTR5b1 PTR5 repetitive element;  |                    |
| 10784            | 23467           | 36703          | 9.52              | 3.0E-48 BF514170.1                   | EST_HUMAN             | UH-BW1_en-10-U_1.s1 NCI_CGAP_Sub7 Homo sapiens cDNA clone IMAGE:3082267 3'   |                    |
| 44               | 12873           | 25465          | 1.71              | 2.0E-48 AA631940.1                   | EST_HUMAN             | fmf67 Regional genomic DNA specific cDNA library Homo sapiens cDNA clone CR17-28   |                    |
| 1197             | 13949           |                | 5.15              | 2.0E-48 H24278.1                     | EST_HUMAN             | ym55e10.r1 Scores infant brain 1NIB Homo sapiens cDNA clone IMAGE:52182 5' similar to SP:MEB MOUSE P46803 MEMBRANE GLYCOPROTEIN;                                 |                    |
| 4495             | 17231           | 28861          | 1.42              | 2.0E-48 BE248085.1                   | EST_HUMAN             | TCBAP1D3842 Pediatric pre-B cell acute lymphoblastic leukemia Baylor+GSC project=TCBA Homo sapiens cDNA clone TCBAP3842  |                    |
| 6724             | 18516           | 31438          | 0.61              | 2.0E-48 AA613171.1                   | EST_HUMAN             | nt08g01.s1 NCI_CGAP_Phe1 Homo sapiens cDNA clone IMAGE:1101072 3'  |                    |
| 6724             | 18516           | 31437          | 0.61              | 2.0E-48 AA613171.1                   | EST_HUMAN             | nt08g01.s1 NCI_CGAP_Phe1 Homo sapiens cDNA clone IMAGE:1101072 3'  |                    |
| 7419             | 20096           | 33182          | 4.77              | 2.0E-48 AB040934.1                   | NT                    | Homo sapiens mRNA for KIAA1501 protein, partial cds  |                    |
| 7419             | 20096           | 33183          | 4.77              | 2.0E-48 AB040934.1                   | NT                    | Homo sapiens mRNA for KIAA1501 protein, partial cds  |                    |
| 7432             | 20109           | 33197          | 3.35              | 2.0E-48                              | 11498238 NT           | Hom sapiens v-rel avian reticuloendotheliosis viral oncogene homolog A (nuclear factor of kappa light polypeptide gene enhancer in B-cells 3 (p65)) (RELA), mRNA |                    |
| 82253            | 20947           | 34084          | 1.33              | 2.0E-48 AV743451.1                   | EST_HUMAN             | AV743451 CB Homo sapiens cDNA clone CBCCGG10 5'  |                    |
| 12041            | 17888           | 30486          | 4.27              | 2.0E-48 AA465007.1                   | EST_HUMAN             | 226063.r1 Scores ovarian tumor NIH:OT Homo sapiens cDNA clone IMAGE:810052 5'  |                    |
| 12387            | 26232           | 30820          | 1.86              | 2.0E-48 BE737154.1                   | EST_HUMAN             | 601305064F1 NIH_MGC_39 Homo sapiens cDNA clone IMAGE:36389782 5'   |                    |
| 54               | 13949           |                | 1.34              | 2.0E-48 AB040934.1                   | NT                    | ym55e10.r1 Scores infant brain 1NIB Homo sapiens cDNA clone IMAGE:52182 5' similar to SP:MEB MOUSE P46803 MEMBRANE GLYCOPROTEIN ;                                |                    |
| 853              | 13923           | 28293          | 17.13             | 1.0E-48                              | 4502168 NT            | Homo sapiens cDNA resistance-associated overexpressed protein (LOC51747), mRNA   |                    |
| 1273             | 14023           | 28691          | 3.77              | 1.0E-48                              | 5032032 NT            | Homo sapiens RNA binding motif protein 6 (FBXO6) mRNA  |                    |
| 1811             | 14648           | 27359          | 30.36             | 1.0E-48 AL163302.2                   | NT                    | Homo sapiens chromosome 21 segment HS21 C102   |                    |
| 3481             | 16238           | 28894          | 0.96              | 1.0E-48 AL163248.2                   | NT                    | Homo sapiens chromosome 21 segment HS21 C046   |                    |
| 5061             | 17790           | 30398          | 1.8               | 1.0E-48 M10976.1                     | NT                    | Human endogenous retrovirus DNA (<1), complete retroviral segment  |                    |
| 6195             | 18971           | 31946          | 1.17              | 1.0E-48 AI889077.1                   | EST_HUMAN             | td17c01.x1 NCI_CGAP_Cor16 Homo sapiens cDNA clone IMAGE:2075904 3' similar to TR-O14588 O14588 SIMILARITY TO U73941;   |                    |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 6195             | 18971           | 31947          | 1.17              | 1.0E-48                              | AI889077.1            | EST_HUMAN               | W17G01_X1_NCL_CGAP_Q016 Homo sapiens cDNA clone IMAGE:2075804 3' similar to TR:O14588 O14588   |
| 6407             | 18176           |                | 0.94              | 1.0E-48                              | Y16000.1              | NT                      | SIMILARITY TO U73941 ; Homo sapiens NF2 gene   |
| 6800             | 192855          | 32268          | 0.71              | 1.0E-48                              | AB028994.1            | NT                      | Homo sapiens mRNA for KIAA1071 protein, partial cds  |
| 6800             | 192855          | 32267          | 0.71              | 1.0E-48                              | AB028994.1            | NT                      | Homo sapiens mRNA for KIAA1071 protein, partial cds  |
| 7157             | 18844           | 32813          | 2.52              | 1.0E-48                              | 4755137               | NT                      | Homo sapiens Huntington (Huntington disease) (HD) mRNA   |
| 8730             | 21422           | 34568          | 0.76              | 1.0E-48                              | 47526895              | NT                      | Homo sapiens nitogen-activated protein kinase kinase kinase 13 (MAP3K13), mRNA   |
| 8730             | 21422           | 34567          | 0.76              | 1.0E-48                              | 47526895              | NT                      | Homo sapiens nitogen-activated protein kinase kinase kinase 13 (MAP3K13), mRNA   |
| 9113             | 21801           | 34868          | 0.84              | 1.0E-48                              | 45028339              | NT                      | Homo sapiens Chediak-Higashi syndrome 1 (CHS1) mRNA  |
| 9118             | 21838           | 35004          | 6.4               | 1.0E-48                              | AB033071.1            | NT                      | Homo sapiens mRNA for KIAA1245 protein, partial cds  |
| 9481             | 22134           | 38314          | 5.33              | 1.0E-48                              | BF304683.1            | EST_HUMAN               | 60188808T1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:4122119 5'   |
| 10269            | 22817           | 38127          | 4.98              | 1.0E-48                              | 11422808              | NT                      | Homo sapiens B cell linker protein (SLP85), mRNA   |
| 10269            | 22817           | 38128          | 4.08              | 1.0E-48                              | 11422808              | NT                      | Homo sapiens B cell linker protein (SLP85), mRNA   |
| 2002             | 14737           | 27461          | 1.13              | 8.0E-49                              | AB028407.1            | NT                      | Mus musculus MyoPDZ mRNA for myosin containing PDZ domain, complete cds  |
| 5862             | 18744           | 31704          | 3.43              | 8.0E-49                              | 10048417              | NT                      | Mus musculus T-box 20 (Tbx20), mRNA  |
| 5862             | 18744           | 31705          | 3.43              | 8.0E-49                              | 10048417              | NT                      | Mus musculus T-box 20 (Tbx20), mRNA  |
| 8194             | 20888           | 34026          | 3.17              | 8.0E-49                              | U23850.1              | NT                      | Human Insulin 1,4,5 triphosphate receptor type 1 mRNA, partial cds   |
| 8889             | 22539           | 35733          | 1.16              | 8.0E-49                              | AB008631.1            | NT                      | Homo sapiens gene for actinin receptor type II B, complete cds   |
| 135              | 13171           | 25814          | 1                 | 7.0E-49                              | 67228990              | NT                      | Homo sapiens proteasome (prosome, macropain) 28S subunit ATPase, 4 (PSMC4) mRNA  |
| 135              | 13171           | 25815          | 1                 | 7.0E-49                              | 57228990              | NT                      | Homo sapiens proteasome (prosome, macropain) 28S subunit ATPase, 4 (PSMC4) mRNA  |
| 384              | 13171           | 25814          | 1.73              | 7.0E-49                              | 67228990              | NT                      | Homo sapiens proteasome (prosome, macropain) 28S subunit ATPase, 4 (PSMC4) mRNA  |
| 384              | 13171           | 25815          | 1.73              | 7.0E-49                              | 67228990              | NT                      | Homo sapiens proteasome (prosome, macropain) 28S subunit ATPase, 4 (PSMC4) mRNA  |
| 385              | 13171           | 25814          | 2.94              | 7.0E-49                              | 57228990              | NT                      | Homo sapiens proteasome (prosome, macropain) 28S subunit ATPase, 4 (PSMC4) mRNA  |
| 385              | 13171           | 25815          | 2.94              | 7.0E-49                              | 67228990              | NT                      | Homo sapiens proteasome (prosome, macropain) 28S subunit ATPase, 4 (PSMC4) mRNA  |
| 1199             | 13351           | 28815          | 3.4               | 7.0E-49                              | AL163284.2            | NT                      | Home sapiens chromosome 21 segment HS21C84   |
| 5373             | 18173           | 30862          | 2.11              | 7.0E-49                              | AI807191.1            | EST_HUMAN               | W725H04_x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:23566833 3' similar to TR:054923  |
| 5383             | 18163           | 30873          | 1.48              | 7.0E-49                              | AI807191.1            | EST_HUMAN               | W725H04_x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone DKFZp762C033_51_782 (synonym: hme2) Homo sapiens cDNA clone DKFZp762C033_5'   |
| 5716             | 18173           | 30862          | 0.67              | 7.0E-49                              | AI807191.1            | EST_HUMAN               | W725H04_x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone DKFZp762C033_51_782 (synonym: hme2) Homo sapiens cDNA clone DKFZp762C033_5'   |
|                  |                 |                |                   |                                      |                       |                         | O54923 RSEC15. ;   |
|                  |                 |                |                   |                                      |                       |                         | be55305_x1 NIH_MGC_10 Homo sapiens cDNA clone IMAGE:2800504 3' similar to gb:X17206 40S RIBOSOMAL PROTEIN S4 (HUMAN); gb:M20632 Mouse L1Rep3 protein mRNA from a repetitive element, complete (MOUSE); |
| 192              | 13005           | 25648          | 12.12             | 6.0E-49                              | AW731740.1            | EST_HUMAN               | DKFZp761A138_51_781 (synonym: hmy2) Homo sapiens cDNA clone DKFZp761A138_5'  |
| 4095             | 16837           | 29644          | 1.27              | 6.0E-49                              | AI162091.1            | EST_HUMAN               |  |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|---|--------------------|
| 6349 19119       | 32109           | 0.84           | 6.0E-49           | AU140742.1                           | EST_HUMAN             | AU140742 PLACE4 Homo sapiens cDNA clone IMAGE4000148 5'   |                    |
| 7314 18887       | 33076           | 0.69           | 6.0E-49           | AW511225.1                           | EST_HUMAN             | hd44e02_x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE-2812378 3' similar to TR-085638  |                    |
| 9833 22285       | 35478           | 0.45           | 6.0E-49           | 8910283 NT                           |                       | O85638 CAMP-REGULATED GUANINE NUCLEOTIDE EXCHANGE FACTOR II ;   |                    |
| 9833 22285       | 35479           | 0.45           | 6.0E-49           | 8910283 NT                           |                       | Mus musculus keratin complex 2, gene 8g (Krt2-8g), mRNA   |                    |
| 11248 23910      | 37202           | 2.6            | 6.0E-49           | AW452218.1                           | EST_HUMAN             | UH-B13-ado-a-05-0-U1.s1 NCI_CGAP_Sub5 Homo sapiens cDNA clone IMAGE-3068048 3'  |                    |
| 11681 24257      | 31759           | 2.6            | 6.0E-49           | AA386556.1                           | EST_HUMAN             | EST77525 Pancreas tumor III Homo sapiens cDNA 5' end  |                    |
| 11681 24257      | 317580          | 2.6            | 6.0E-49           | AA386556.1                           | EST_HUMAN             | EST77525 Pancreas tumor III Homo sapiens cDNA 5' end  |                    |
| 12382 25151      |                 | 2.03           | 8.0E-49           | AA707687.1                           | EST_HUMAN             | Z28cd8.s1 Soares_fetal_liver_spleen_1NFLS_S1 Homo sapiens cDNA clone IMAGE-451684 3'  |                    |
| 685 13470        | 28117           | 7              | 6.0E-49           | AL163210.2                           | NT                    | Homo sapiens chromosome 21 segment HS21C010   |                    |
| 685 13470        | 28118           | 7              | 5.0E-49           | AL163210.2                           | NT                    | Homo sapiens chromosome 21 segment HS21C010   |                    |
| 1788 14527       | 27235           | 3.49           | 5.0E-49           | AA172121.1                           | EST_HUMAN             | ZP28c07.1 Strategene neuroepithelium (#937231) Homo sapiens cDNA clone IMAGE-610860 5' similar to TR-0233228 G233228 RTV-L PROTEIN . contains LTR7.33 LTR7 LTR7 repetitive element; |                    |
| 2764 15469       | 28201           | 4.26           | 5.0E-49           | U17714.1                             | NT                    | Homo sapiens putative tumor suppressor ST13 (ST13) mRNA, complete cds   |                    |
| 3287 16029       | 28878           | 2.64           | 5.0E-49           | 11436355 NT                          |                       | X08d01.x1 NCI_CGAP_Ut4 Homo sapiens cDNA clone IMAGE-2675583 3' similar to WP-50350.2B  |                    |
| 512 13288        | 25927           | 47.84          | 4.0E-49           | AW186533.1                           | EST_HUMAN             | CE06703 :   |                    |
| 7172 18858       | 32830           | 0.95           | 4.0E-49           | 11525737 NT                          |                       | Homo sapiens UDP-N-acetyl-alpha-D-galactosaminepolypeptide N-acetylglucosaminyltransferase 8 (GalNAc-T8) (GAINT8), mRNA   |                    |
| 7172 18858       | 32891           | 0.95           | 4.0E-49           | 11525737 NT                          |                       | Homo sapiens UDP-N-acetyl-alpha-D-galactosaminepolypeptide N-acetylglucosaminyltransferases 8 (GalNAc-T8) (GAINT8), mRNA  |                    |
| 7710 20374       | 33488           | 0.9            | 4.0E-49           | 7662209 NT                           |                       | Homo sapiens KIAA0623 gene product (KIAA0623), mRNA   |                    |
| 8763 21465       | 34604           | 0.47           | 4.0E-49           | 11425374 NT                          |                       | Homo sapiens copine III (CPNE3), mRNA   |                    |
| 8763 21455       | 34605           | 0.47           | 4.0E-49           | 11425374 NT                          |                       | Homo sapiens copine III (CPNE3), mRNA   |                    |
| 12221 25388      |                 | 4.21           | 4.0E-49           | AA210798.1                           | EST_HUMAN             | ZB60f05.r1 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE-882977 5'  |                    |
| 12308 24790      |                 | 4.1            | 4.0E-49           | AF240798.1                           | NT                    | Homo sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1) genes, complete cds  |                    |
| 547 13330        | 25861           | 1.73           | 3.0E-49           | X689b88.1                            | NT                    | H.sapiens mRNA for acetyl-CoA carboxylase.  |                    |
| 2654 15394       |                 | 1.9            | 3.0E-49           | AA016134.1                           | EST_HUMAN             | z63105.1 Soares retina N2b4H R Homo sapiens cDNA clone IMAGE-3605584 5' similar to contig L1.S L1 repetitive element;   |                    |
| 4923 17651       | 30264           | 2.33           | 3.0E-49           | U48898.1                             | NT                    | Human type IV collagen (COL4A6) Gene, exon 40   |                    |
| 7319 20002       | 33081           | 11.87          | 3.0E-49           | I-389479.1                           | EST_HUMAN             | EST25sd12 WATM1 Homo sapiens cDNA clone 25s12   |                    |

Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No.  | Top Hit Database Source                                   | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|--|---|---|
| 11272            | 22933           | 37226          | 1.88              | 3.0E-49                              | AA337531.1   | EST HUMAN   | EST42572 Endometrial tumor Homo sapiens cDNA 5' end   |
| 846              | 13425           |                | 2.94              | 2.0E-49                              | BE165890.1   | EST HUMAN   | MR3-H10487-150200-113-g01 HT10487 Homo sapiens cDNA   |
| 3216             | 15979           | 28630          | 1.84              | 2.0E-49                              | N26446.1   | EST HUMAN   | y23d08_r1 Soares melanocyte 2NbHM Homo sapiens cDNA clone IMAGE:2632571 5'  |
|                  |                 |                |                   |                                      | 0288d02_x1 Soares_senescent fibroblasts NbHSF Homo sapiens cDNA clone IMAGE:1682403 3' |   | similar to IMAGE:1682403 3' contains Alu repetitive element; contains element MER22   |
| 4746             | 17478           | 30110          | 0.68              | 2.0E-49                              | AI167357.1   | EST HUMAN   | gb M31420 RAS-LIKE PROTEIN TC10 (HUMAN);contains Alu repetitive element;  |
| 4753             | 17490           | 30118          | 0.74              | 2.0E-49                              | BF611646.1   | EST HUMAN   | UH-B14_aps-d-02-UJ_81 NCI CGAP_Sub8 Homo sapiens cDNA clone IMAGE:308538 3'   |
| 6637             | 19339           | 32414          | 1.17              | 2.0E-49                              | AV717938.1   | EST HUMAN   | AY717838 DCB Homo sapiens cDNA clone DC8ALB01 5'  |
| 7888             | 20683           |                | 1.74              | 2.0E-49                              | M86033.1   | EST HUMAN   | EST02558 Fetal brain, Strategic cart#36206 Homo sapiens cDNA clone HFBC750  |
| 12316            | 25250           |                | 2.07              | 2.0E-49                              | AF163884.1   | NT  | Homo sapiens SNCA isoform (SNCA) gene, complete cds, alternatively spliced  |
| 879              | 13848           |                | 5                 | 1.0E-49                              | BF036327.1   | EST HUMAN   | 60145831F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3382038 5'  |
| 1548             | 14282           | 26878          | 1.11              | 1.0E-49                              | 4557887  | NT  | Homo sapiens keratin 18 (KRT18) mRNA  |
| 1794             | 14534           | 27243          | 4.82              | 1.0E-49                              | BE255216.1   | EST HUMAN   | 60111576F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3356273 5'  |
| 5275             | 18080           | 30737          | 6.82              | 1.0E-49                              | BF131007.1   | EST HUMAN   | 601820053F1 NIH_MGC_58 Homo sapiens cDNA clone IMAGE:4052052 5'   |
| 5988             | 18767           | 31731          | 0.88              | 1.0E-49                              | H18291.1   | EST HUMAN   | YPA8104.11 Soares adult brain N2-b5H-B5Y Homo sapiens cDNA clone IMAGE:171703 5' similar to SP-GBG1_HUMAN_Q08447 GUANINE NUCLEOTIDE-BINDING PROTEIN Q7 GAMMA-1 SUBUNIT; |
| 5892             | 18773           | 31738          | 5.55              | 1.0E-49                              | AW0864640.1  | EST HUMAN   | EST378713 MAGE sequences, MAGH Homo sapiens cDNA  |
| 7117             | 19805           | 32869          | 0.62              | 1.0E-49                              | AV703001.01  | EST HUMAN   | AV703001 ADB Homo sapiens cDNA clone ADDBCVD11 5'   |
| 7117             | 19805           | 32870          | 0.62              | 1.0E-49                              | AV703001.01  | EST HUMAN   | AV703001 ADB Homo sapiens cDNA clone ADDBCVD11 5'   |
| 7123             | 19811           | 32873          | 3.55              | 1.0E-49                              | BE39810.1  | EST HUMAN   | 601280330F1 NIH_MGC_8 Homo sapiens cDNA clone IMAGE:3620863 5'  |
| 7123             | 19811           | 32879          | 3.55              | 1.0E-49                              | BE39810.1  | EST HUMAN   | yw78g112_s1 Soares_placenta_8to9weeks_2NbH-IP8to8W Homo sapiens cDNA clone IMAGE:258406 3'  |
| 7200             | 19886           | 32980          | 2.21              | 1.0E-49                              | N25884.1   | EST HUMAN   | similar to gb X655873 KINESIN HEAVY CHAIN (HUMAN);  |
| 7200             | 19886           | 32981          | 2.21              | 1.0E-49                              | N25884.1   | EST HUMAN   | yw78g112_s1 Soares_placenta_8to9weeks_2NbH-IP8to8W Homo sapiens cDNA clone IMAGE:258406 3'  |
| 7877             | 20872           | 33795          | 0.69              | 1.0E-49                              | 11321580   | NT  | Homo sapiens succinate-CoA ligase, GDP-forming, alpha subunit (SUCL-G1), mRNA   |
| 7877             | 20872           | 33796          | 0.69              | 1.0E-49                              | 11321580   | NT  | Homo sapiens succinate-CoA ligase, GDP-forming, alpha subunit (SUCL-G1), mRNA   |
| 8575             | 21257           | 0.68           | 1.0E-49           | 86894184                             | NT   | Homo sapiens RNA binding motif protein 7 (LOC51120), mRNA |   |
| 88891            | 21582           | 34721          | 1.29              | 1.0E-49                              | BE409340.1   | EST HUMAN   | 601300892F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:363538 5'  |
| 10028            | 22874           | 35889          | 1.58              | 1.0E-49                              | AL045129.2   | EST HUMAN   | DKFZp454D2423_r1434 (synonym: hsc5) Homo sapiens cDNA clone DKFZp454D2423 5'  |
| 10979            | 23654           | 36907          | 1.43              | 1.0E-49                              | AV751477.1   | EST HUMAN   | AV751477 NPD Homo sapiens cDNA clone NPDAWE04 5'  |
| 11281            | 23942           | 37236          | 3.32              | 1.0E-49                              | 11427366   | NT  | Homo sapiens briefolin A-inhibited guanine nucleotide-exchange protein 1 (BIG1), mRNA   |
| 12215            | 24677           |                | 2.46              | 1.0E-49                              | 11418322   | NT  | Homo sapiens cadherin EGF LAG seven-pass G-type receptor 1 (CELSR1), mRNA   |
| 4937             | 17685           |                | 1.4               | 9.0E-50                              | AF101475.1   | NT  | Homo sapiens glycine N-methyltransferase (GNMT) gene, complete cds  |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Brain SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor |
|------------------|------------------|----------------|-------------------|--------------------------------------|-----------------------|---|--------------------|
| 6310             | 25421            |                | 0.95              | 9.0E-50 BE285758.1                   | EST_HUMAN             | 601176250F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:3531588 5'   |                    |
| 166              | 12880            | 25619          | 4.05              | 8.0E-50 AL1632022                    | NT                    | Homo sapiens chromosome 21 segment HS21C002   |                    |
| 702              | 13477            | 28125          | 2.54              | 8.0E-50 X9509172                     | NT                    | Homo sapiens mRNA for VIP receptor 2  |                    |
| 702              | 13477            | 28126          | 2.54              | 8.0E-50 X9509172                     | NT                    | Homo sapiens mRNA for VIP receptor 2  |                    |
| 1758             | 14500            | 27201          | 2.82              | 8.0E-50                              | 4501890 NT            | Homo sapiens actinin, alpha 1 (ACTN1) mRNA  |                    |
| 2703             | 15410            | 28147          | 1.48              | 8.0E-50                              | 4826858 NT            | Homo sapiens capping protein (actin filament) muscle Z-line, beta (CAPZB), mRNA   |                    |
| 2833             | 14691            |                | 15.7              | 8.0E-50 D90334.1                     | NT                    | Homo sapiens hepatocyte growth factor(HGF) gene, exon 18  |                    |
| 11385            | 23892            | 37283          | 1.29              | 8.0E-50 AA6833467.1                  | EST_HUMAN             | np62408_s1 NCI_CGAP_Bx2 Homo sapiens cDNA clone IMAGE:1130891 3' similar to db:J05459   |                    |
| 605              | 13383            | 26015          | 0.76              | 7.0E-50 BE088591.1                   | EST_HUMAN             | GLUTATHIONE S-TRANSFERASE TESTIS/BRAIN (HUMAN); Q00-BT0703-280400-211-008 BT0703 Homo sapiens cDNA                              |                    |
| 6687             | 19604            | 32643          | 1.08              | 7.0E-50 BF091822.1                   | EST_HUMAN             | RC6-TN0073-150500-011-A12 TN0073 Homo sapiens cDNA  |                    |
| 6687             | 19604            | 32644          | 1.08              | 7.0E-50 BF091822.1                   | EST_HUMAN             | RC6-TN0073-150500-011-A12 TN0073 Homo sapiens cDNA  |                    |
| 7205             | 19890            | 32983          | 0.8               | 7.0E-50 AA627822.1                   | EST_HUMAN             | mg58e12_s1 NCI_CGAP_C08 Homo sapiens cDNA clone IMAGE:1148208 3' similar to gb:X68391 60S                                       |                    |
| 10686            | 23347            | 36534          | 7.65              | 7.0E-50 AI872137.1                   | EST_HUMAN             | RIBOSOMAL PROTEIN L8 (HUMAN); wtms5g11_x1 NCI_CGAP_U12 Homo sapiens cDNA clone IMAGE:2438908 3'                                 |                    |
| 4309             | 17048            |                | 0.88              | 6.0E-50 BE784381.1                   | EST_HUMAN             | 6016885685F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:3843577 5'   |                    |
| 8112             | 20806            |                | 5.67              | 6.0E-50 BE04078.1                    | EST_HUMAN             | hg3604_x1 NCI_CGAP_U11 Homo sapiens cDNA clone IMAGE:3039511 3' similar to contains MER29_b3                                    |                    |
| 10717            | 23406            | 36848          | 126               | 6.0E-50 AA312079.1                   | EST_HUMAN             | MER29 repetitive element; EST1822775 Jurkat T-cells VI Homo sapiens cDNA 5' end   |                    |
| 10717            | 23406            | 36847          | 126               | 6.0E-50 AA312079.1                   | EST_HUMAN             | EST1822775 Jurkat T-cells VI Homo sapiens cDNA 5' end   |                    |
| 1785             | 14526            | 27283          | 1.1               | 5.0E-50 BF332838.1                   | EST_HUMAN             | CMD-BT0782-300500-398-406 BT0782 Homo sapiens cDNA  |                    |
| 1785             | 14523            | 27284          | 1.1               | 5.0E-50 BF332838.1                   | EST_HUMAN             | CMD-BT0782-300500-398-405 BT0782 Homo sapiens cDNA  |                    |
| 8930             | 21680            |                | 5.26              | 5.0E-50 AA557683.1                   | EST_HUMAN             | hg4510_s1 NCI_CGAP_P14 Homo sapiens cDNA clone IMAGE:1043683 similar to contains PTR5.3 PTR5 repetitive element;                |                    |
| 897              | 13685            |                | 1.71              | 4.0E-50 AA801143.1                   | EST_HUMAN             | hg546d9_s1 NCI_CGAP_SS1 Homo sapiens cDNA clone IMAGE:1104620 3' similar to gb:X53741_ma1                                       |                    |
| 3441             | 16197            | 28847          | 0.89              | 4.0E-50 AL163248.2                   | NT                    | FIBULIN-1, ISOFORM A PRECURSOR (HUMAN); Homo sapiens chromosome 21 segment HS21C048   |                    |
| 6268             | 19041            | 32018          | 0.68              | 4.0E-50                              | 11440683 NT           | Homo sapiens cysteiny-M-RNA synthetase (CARS), mRNA   |                    |
| 7135             | 18822            | 32888          | 1.95              | 4.0E-50 BE087538.1                   | EST_HUMAN             | QV1-BT0381-280300-L-127-412 BT0681 Homo sapiens cDNA  |                    |
| 1831             | 14687            |                | 4.13              | 3.0E-50 M18048.1                     | NT                    | Human endogenous retrovirus R7V1-H2   |                    |
| 3283             | 16054            | 28703          | 1.24              | 3.0E-50 AA748142.1                   | EST_HUMAN             | db03108_s1 NCI_CGAP_Kid3 Homo sapiens cDNA clone IMAGE:1322827 3'   |                    |
| 3734             | 16487            | 28124          | 1.14              | 3.0E-50 AW755254.1                   | EST_HUMAN             | CMY45 Human cardiac muscle expression library/Homo sapiens cDNA clone 4151635 similar to CMY46 Cardiomyopathy associated gene 5 |                    |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No.                                   | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|---|-------------------------|---|
| 6867             | 18584           | 32818          | 1.52              | 3.0E-50                    | 11421514.NT   |                         | Homo sapiens similar to sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3A (H. sapiens) (LOC283232), mRNA   |
| 7544             | 20214           | 33314          | 4.85              | 3.0E-50                    | AF233436.2  | NT                      | Homo sapiens FYVE domain-containing dual specificity protein phosphatase FYVE-DSP1a mRNA, complete cds  |
| 7544             | 20214           | 33315          | 4.85              | 3.0E-50                    | AF233436.2  | NT                      | Homo sapiens FYVE domain-containing dual specificity protein phosphatase FYVE-DSP1a mRNA, complete cds  |
| 8481             | 21173           | 34318          | 0.71              | 3.0E-50                    | 6601589.NT  |                         | Homo sapiens ankyrin-like with transmembrane domains 1 (ANKTM1), mRNA   |
| 9718             | 22368           | 35567          | 1.21              | 3.0E-50                    | AB046818.1  | NT                      | Homo sapiens mRNA for KIAA1698 protein, partial cds   |
| 9727             | 22378           | 35580          | 0.98              | 3.0E-50                    | 11412814.NT   |                         | Homo sapiens E-complex 10 (a murine top homolog) (TCP10), mRNA  |
| 10077            | 22725           | 35942          | 0.47              | 3.0E-50                    | Y18278.1  | NT                      | Mus musculus mRNA for neurobeachin  |
| 10415            | 23061           | 36280          | 1.03              | 3.0E-50                    | AB002267.1  | NT                      | Human mRNA for KIAA0288 gene, partial cds   |
| 11045            | 23715           | 36984          | 1.61              | 3.0E-50                    | 11436955.NT   |                         | Homo sapiens Gb2-associated binder 2 (KIAA0571), mRNA   |
| 11441            | 23208           | 38439          | 5.35              | 3.0E-50                    | AJ245821.1  | NT                      | Homo sapiens CT12 gene  |
| 760              | 13532           |                | 5.38              | 2.0E-50                    | AF055068.1  | NT                      | Homo sapiens MHC class 1 region   |
| 1057             | 13815           | 28476          | 5.57              | 2.0E-50                    | 4557752.NT  |                         | Homo sapiens midline 1 (Opitz/BBB syndrome) (MID1) mRNA   |
| 1424             | 14171           | 28857          | 2.25              | 2.0E-50                    | AF138303.1  | NT                      | Homo sapiens decorin D mRNA, complete cds, alternatively spliced  |
| 6769             | 19513           | 32539          | 0.59              | 2.0E-50                    | AU124065.NT2RM2/Homo sapiens cDNA clone NT2RM20016099.5 |                         |   |
| 8215             | 20809           | 34044          | 1.02              | 2.0E-50                    | AB038192.1  | NT                      | Homo sapiens TFF gene cluster for trefoil factor, complete cds  |
| 8215             | 20809           | 34045          | 1.02              | 2.0E-50                    | AB038192.1  | NT                      | Homo sapiens TFF gene cluster for trefoil factor, complete cds  |
| 8355             | 21048           | 34186          | 10.04             | 2.0E-50                    | X08356.1  | NT                      | Human HALPHA44 gene for alpha-tubulin, exons 1-3  |
| 8355             | 21048           | 34187          | 10.04             | 2.0E-50                    | X08356.1  | NT                      | Human HALPHA44 gene for alpha-tubulin, exons 1-3  |
| 9784             | 22435           | 35841          | 1.51              | 2.0E-50                    | 8810283.NT  |                         | Mus musculus keratin complex 2, gene 8g (Krt2-8g), mRNA   |
| 9784             | 22435           | 35842          | 1.51              | 2.0E-50                    | 8910283.NT  |                         | Mus musculus keratin complex 2, gene 8g (Krt2-8g), mRNA   |
| 11680            | 24258           |                | 1.8               | 2.0E-50                    | AF023981.1  | NT                      | Macaca mulatta cytochrome P450 2D6 mRNA, complete cds   |
| 449              | 13235           | 25874          | 1.92              | 1.0E-50                    | AL163209.2  | NT                      | Homo sapiens chromosome 21 segment HS21C009   |
| 2285             | 15087           |                | 9.48              | 1.0E-50                    | A271735.1   | NT                      | Homo sapiens Xq pseudautosomal region; segment 1/2  |
| 10883            | 22741           | 35856          | 1.57              | 1.0E-50                    | D1078.1   | NT                      | Homo sapiens RGH2 genes, retrovirus-like element  |
| 9893             | 18878           | 31624          | 1.21              | 9.0E-51                    | AW511225.1  | EST_HUMAN               | hd44602.x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE-2812378 3' similar to TR:0265636   |
| 6130             | 18908           | 31876          | 0.71              | 9.0E-51                    | AA744837.1  | EST_HUMAN               | 086536 CAMP-REGULATED GUANINE NUCLEOTIDE EXCHANGE FACTOR II.; my67n03.91 NCL_CGAP_GC81 Homo sapiens cDNA clone IMAGE-12833813'                  |
| 8572             | 21284           | 34403          | 0.65              | 9.0E-51                    | AI781154.1  | EST_HUMAN               | ab23904.x5 Stratagene lung (#837210) Homo sapiens cDNA clone IMAGE-841688 3' similar to SW:PSM_HUMAN Q04609 PROSTATE-SPECIFIC MEMBRANE ANTIGEN; |
| 8224             | 21963           | 35975          | 1.23              | 9.0E-51                    | AA043738.1  | EST_HUMAN               | 2k5109.x1 Scores_pregnant_uteris_NbHPU Homo sapiens cDNA clone IMAGE-488382.6   |

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Table 4  
Single Exon Probes Express

| Probe Seq ID No: | Exon Seq ID No: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 8400             | 22082           | 35231          | 0.69              | 8.0E-51                              | AI781154.1            | EST_HUMAN               | ab23g04_56 Stratogene lung (#937210) Homo sapiens cDNA clone IMAGE:8416888 3' similar to SW-PSM_HUMAN 004609 PROSTATE-SPECIFIC MEMBRANE ANTIGEN ; |
| 8400             | 22082           | 35231          | 0.69              | 8.0E-51                              | AI781154.1            | EST_HUMAN               | ab23g04_56 Stratogene lung (#937210) Homo sapiens cDNA clone IMAGE:8416888 3' similar to SW-PSM_HUMAN 004609 PROSTATE-SPECIFIC MEMBRANE ANTIGEN ; |
| 11455            | 23222           | 38458          | 0.89              | 8.0E-51                              | H89078.1              | EST_HUMAN               | yw2468.1r Marton Fetal Coohea. Homo sapiens cDNA clone IMAGE:253210 5'  |
| 11455            | 23222           | 38457          | 0.89              | 8.0E-51                              | H89078.1              | EST_HUMAN               | yw2468.1r Marton Fetal Coohea. Homo sapiens cDNA clone IMAGE:253210 5'  |
| 11823            | 18838           | 31878          | 1.43              | 8.0E-51                              | AA744837.1            | EST_HUMAN               | mp67h03.s1 NCI CGAP GCB1 Homo sapiens cDNA clone IMAGE:1283381 3'   |
| 4405             | 17142           | 28770          | 1.45              | 8.0E-51                              | 4503932               | NT                      | Homo sapiens glycine amidinotransferase (L-arginine-glycine amidinotransferase) (GATM) mRNA   |
| 4405             | 17142           | 28771          | 1.45              | 8.0E-51                              | 4503932               | NT                      | Homo sapiens glycine amidinotransferase (L-arginine-glycine amidinotransferase) (GATM) mRNA   |
| 4530             | 17265           | 28898          | 8.43              | 8.0E-51                              | AA810842.1            | EST_HUMAN               | np88e09.s1 NCI CGAP_Lu1 Homo sapiens cDNA clone IMAGE:1142440 3' similar to gb:X12671_mer1 HETEROGENEOUS NUCLEAR RIBONUCLEOPROTEIN A1 (HUMAN);    |
| 7352             | 20222           | 33325          | 2.24              | 8.0E-51                              | 11439587              | NT                      | Homo sapiens PDZ-73 protein (PDZ-73/NY-CO-38), mRNA   |
| 9384             | 21939           |                | 1.13              | 8.0E-51                              | AU138590.1            | EST_HUMAN               | AU138590 PLACE1 Homo sapiens cDNA clone PLACE1008887 5'   |
| 11812            | 20222           | 33325          | 2.02              | 8.0E-51                              | 11439587              | NT                      | Homo sapiens PDZ-73 protein (PDZ-73/NY-CO-38), mRNA   |
| 3015             | 15781           | 28430          | 0.9               | 7.0E-51                              | AW274720.1            | EST_HUMAN               | Q9Z340 ATYPICAL PKC SPECIFIC BINDING PROTEIN ;  |
| 3278             | 16037           | 28867          | 1.45              | 7.0E-51                              | AW888218.1            | EST_HUMAN               | QV4-NT0028-200400-180-d05 NT0028 Homo sapiens cDNA  |
| 4146             | 18888           | 28519          | 1.37              | 7.0E-51                              | AL078628.1            | EST_HUMAN               | DKFZp434B2229_71_434 (synonym: hsc8) Homo sapiens cDNA clone DKFZp434B2229 5'   |
| 4146             | 18888           | 28520          | 1.37              | 7.0E-51                              | AL078628.1            | EST_HUMAN               | DKFZp434B2229_71_434 (synonym: hsc8) Homo sapiens cDNA clone DKFZp434B2229 5'   |
| 4318             | 17057           | 28681          | 2.71              | 7.0E-51                              | AW285603.1            | EST_HUMAN               | U-H-BW0-sip-b-05-D-UJ.61 NCI CGAP_Sub6 Homo sapiens cDNA clone IMAGE:2728817 3'   |
| 11686            | 24281           | 37603          | 1.34              | 7.0E-51                              | AF161449.1            | NT                      | Homo sapiens HSPC331 mRNA, partial cds  |
| 1972             | 14708           | 27426          | 4.96              | 6.0E-51                              | 7867268               | NT                      | Homo sapiens KIAA0928 protein Msx2 interacting nuclear target (MINT) homolog (KIAA0928), mRNA   |
| 3466             | 16222           | 28878          | 14.73             | 6.0E-51                              | 7867268               | NT                      | Homo sapiens KIAA0928 protein Msx2 interacting nuclear target (MINT) homolog (KIAA0928), mRNA   |
| 5901             | 18888           | 31634          | 1.58              | 6.0E-51                              | X01788.1              | NT                      | Human haptoglobin related (Hpr) gene exon 3   |
| 5912             | 18896           | 31649          | 9.95              | 6.0E-51                              | AF070083.1            | NT                      | Homo sapiens mitogen-activated protein kinase kinase 1 (MKK4) gene, exon 4  |
| 5912             | 18896           | 31649          | 9.95              | 6.0E-51                              | AF070083.1            | NT                      | Homo sapiens mitogen-activated protein kinase kinase 1 (MKK4) gene, exon 4  |
| 6683             | 19580           | 32615          | 1.02              | 6.0E-51                              | 4506736               | NT                      | Homo sapiens ribosomal protein S6 kinase, 70kD, polypeptide 1 (RPS6KB1) mRNA  |
| 6792             | 19536           | 32584          | 0.97              | 6.0E-51                              | 11416751              | NT                      | Homo sapiens non-kinase Cdc42 effector protein SPEC2 (LOC56890), mRNA   |
| 6888             | -17945          | 30540          | 2.22              | 6.0E-51                              | 11429685              | NT                      | Homo sapiens cerebral cell synthesis molecule (LOC51148), mRNA  |
| 9035             | 21725           | 34878          | 0.68              | 6.0E-51                              | 11428525              | NT                      | Homo sapiens hypothetical protein FLJ11042 (FLJ11042), mRNA   |
| 9035             | 21725           | 34879          | 0.68              | 6.0E-51                              | 11428525              | NT                      | Homo sapiens hypothetical protein FLJ11042 (FLJ11042), mRNA   |
| 9582             | 22735           | 35418          | 2.18              | 6.0E-51                              | 7861536               | NT                      | Homo sapiens B9 protein (B9), mRNA  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source                                 | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|---|--|
| 8662             | 22314           | 35511          | 0.67              | 6.0E-51                    | U50083.1              | NT  | Human ankyrin (ANK1) gene, exon 2  |
| 11221            | 23884           | 37169          | 1.51              | 6.0E-51                    | 11528289              | NT  | Homo sapiens Interleukin 17 receptor (IL17R), mRNA   |
| 11515            | 24115           | 37425          | 1.52              | 6.0E-51                    | 5453949               | NT  | Homo sapiens protein phosphatase 2, regulatory subunit B (B6), alpha isoform (PPP2R5A) mRNA  |
| 11515            | 24115           | 37428          | 1.62              | 6.0E-51                    | 5453949               | NT  | Homo sapiens protein phosphatase 2, regulatory subunit B (B6), alpha isoform (PPP2R5A) mRNA  |
| 774              | 13546           | 28207          | 11.81             | 5.0E-51                    | AL163203.2            | NT  | Homo sapiens chromosome 21 segment HS21 C033   |
| 785              | 13557           | 28219          | 1.88              | 5.0E-51                    | 4507500               | NT  | Homo sapiens T-cell lymphoma inverson and metastasis 1 (TIA1) mRNA   |
| 970              | 15557           | 28400          | 0.96              | 6.0E-51                    | AL133204.1            | NT  | Novel human gene mapping to chromosome X   |
| 1603             | 14349           | 27038          | 0.89              | 5.0E-51                    | 5031980               | NT  | Homo sapiens 26S proteasome-associated pad1 homolog (POH1) mRNA  |
| 2801             | 16315           | 28052          | 8.67              | 5.0E-51                    | AJ007558.1            | NT  | Homo sapiens mRNA for nucleoporin 165  |
| 3925             | 16875           | 28316          | 1.52              | 6.0E-51                    | M30838.1              | NT  | Human Ku (p70/p80) subunit mRNA, complete cds  |
| 3926             | 16876           | 28317          | 1.52              | 6.0E-51                    | M30838.1              | NT  | Human Ku (p70/p80) subunit mRNA, complete cds  |
| 11249            | 23911           | 37203          | 4.18              | 5.0E-51                    | 5803136               | NT  | Homo sapiens RNA binding motif protein 3 (FBM3), mRNA  |
| 1163             | 13908           | 26571          | 3.65              | 3.0E-51                    | A1587348.1            | EST_HUMAN   | Irb169.X1 NCI_CGAP_Pari1 Homo sapiens cDNA clone IMAGE:2224720 3' similar to gb:M263326 KERATIN, TYPE I CYTOSKELETAL 18 (HUMAN);   |
| 4292             | 17031           | 29859          | 1.97              | 3.0E-51                    | AL169142.1            | NT  | Novel human gene mapping to chromosome 22  |
| 7479             | 20152           | 33246          | 3                 | 3.0E-51                    | R15814.1              | EST_HUMAN   | IMAGE:53233 5' similar to gb:M14123_cds4 RETROVIRUS-RELATED POLYPROTEIN (HUMAN); contains LTR6 repetitive element;   |
| 8738             | 21430           | 4.68           | 3.0E-51           | M28063.1                   | NT                    | Human hnRNP C2 protein mRNA                             |  |
| 8868             | 25430           | 0.47           | 3.0E-51           | AW683777.1                 | EST_HUMAN             | Ied4d06.y1 Human Pancreatic Islets Homo sapiens cDNA 5' |  |
| 357              | 13155           | 25798          | 2.01              | 2.0E-51                    | 4507798               | NT  | Homo sapiens ubiquitin Protein ligase E3A (human papilloma virus E6-associated protein, Angelman syndrome) (UBE3A) mRNA  |
| 1683             | 14427           | 27124          | 5.16              | 2.0E-51                    | AA233852.1            | EST_HUMAN   | Z30405J1 Strategene N12 neuronal precursor 83/230 Homo sapiens cDNA clone IMAGE:884880 5' similar to TR-G233226 G233226 RTV-H PROTEIN. contains LTR7.13 LTR7 repetitive element; |
| 3716             | 16469           | 28107          | 1.57              | 2.0E-51                    | A1492415.1            | EST_HUMAN   | t27g03.x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:2131732 3'  |
| 4458             | 17194           | 28620          | 0.78              | 2.0E-51                    | AW137282.1            | EST_HUMAN   | UI-H-B1-adj-d-02-0-U1.s1 NCI_CGAP_Sub3 Homo sapiens cDNA clone IMAGE:2716851 3'  |
| 5352             | 18155           | 30837          | 0.7               | 2.0E-51                    | A1732851.1            | EST_HUMAN   | P354f09.j5 NCI_CGAP_J5df Homo sapiens cDNA clone IMAGE:1925608 3' similar to SW:NME1_MOUSE   |
| 5352             | 18155           | 30838          | 0.7               | 2.0E-51                    | A1732851.1            | EST_HUMAN   | P354f09.j6 NCI_CGAP_J5df Homo sapiens cDNA clone IMAGE:1325608 3' similar to PRECURSOR;  |
| 5925             | 18709           | 31653          | 3.68              | 2.0E-51                    | BE782015.1            | EST_HUMAN   | P354f09.j6 NCI_CGAP_J5df Homo sapiens cDNA clone IMAGE:1325608 3' similar to SW:NME1_MOUSE   |
| 7209             | 18894           |                | 0.61              | 2.0E-51                    | AF218927.1            | NT  | Homo sapiens diacylglycerol kinase (DGK) gene, exon 23   |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source                           | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|---|---|
| 7357             | 20098           | 33116          | 1.08              | 2.0E-51                          | 7662349               | NT  | Homo sapiens cell recognition molecule Casp2 (KIAA0288), mRNA   |
| 85589            | 21291           | 34432          | 1.72              | 2.0E-51                          | BE0911834.1           | EST_HUMAN   | 601676787F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3959813 5'   |
| 85589            | 21291           | 34433          | 1.72              | 2.0E-51                          | BE0911834.1           | EST_HUMAN   | 601676787F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3959813 5'   |
| 8932             | 21623           | 34798          | 0.98              | 2.0E-51                          | 11037084              | NT  | Homo sapiens disrupted in schizophrenia 1 (DISC1), mRNA   |
| 9412             | 22090           | 35281          | 1.45              | 2.0E-51                          | AB17078.1             | EST_HUMAN   | ts74a07.74 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE:2238880 3' similar to SW:TRKC_HUMAN   |
| 95039            | 22193           | 35338          | 5.88              | 2.0E-51                          | BE165860.1            | EST_HUMAN   | Q162388 NT_3 GROWTH FACTOR RECEPTOR PRECURSOR ; MFS-HT0487-150200-113-901 HTD487 Homo sapiens cDNA  |
| 95118            | 22172           | 36365          | 0.9               | 2.0E-51                          | AB0079236.1           | NT  | Homo sapiens tRNA for KU440457 protein, partial cds   |
| 10352            | 22979           | 36189          | 1.77              | 2.0E-51                          | AY688247.4            | EST_HUMAN   | AV682474 GKB Homo sapiens cDNA clone GBAGF05 5'   |
| 10370            | 23016           | 36232          | 2.67              | 2.0E-51                          | AA378589.1            | EST_HUMAN   | ES191286 Synovial sarcoma Homo sapiens cDNA 5' end  |
| 11238            | 18153           | 30837          | 8.52              | 2.0E-51                          | AT732851.1            | EST_HUMAN   | ob3409.46 NCI_CGAP_Kd5 Homo sapiens cDNA clone IMAGE:1326608 3' similar to SW:NME1_MOUSE  |
| 11238            | 18153           | 30838          | 8.52              | 2.0E-51                          | AT732851.1            | EST_HUMAN   | P35436 GLUTAMATE [NMDA] RECEPTOR SUBUNIT EPSILON 1 PRECURSOR ;  |
| 12523            | 24870           | 31017          | 2.1               | 2.0E-51                          | 11410159              | NT  | ob3409.46 NCI_CGAP_Kd5 Homo sapiens cDNA clone IMAGE:1326609 3' similar to SW:NME1_MOUSE  |
| 112              | 12834           | 25571          | 5.74              | 1.0E-51                          | 45033528              | NT  | Homo sapiens eukaryotic translation initiation factor 4A, isoform 1 (EIF4A1) mRNA   |
| 1478             | 14228           | 2032           | 1.0E-51           | AV742248.1                       | EST_HUMAN             | AV742248 CB Homo sapiens cDNA clone CBFBC12 5'    |   |
| 4889             | 17684           | 30284          | 1.52              | 1.0E-51                          | BE779059.1            | EST_HUMAN   | 60146488EF1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE:3888243 5'   |
| 5305             | 18110           | 30789          | 4.1               | 1.0E-51                          | T18882.1              | EST_HUMAN   | b120587 Testis 1 Homo sapiens cDNA clone b120588  |
| 7549             | 20219           | 33322          | 0.94              | 1.0E-51                          | AI572532.1            | EST_HUMAN   | tae9q02x1 Soesres_NiHMPU_S1 H1 Homo sapiens cDNA clone IMAGE:2089108 3'   |
| 7803             | 20498           | 33619          | 0.81              | 1.0E-51                          | BFA34359.1            | EST_HUMAN   | 7c98b002x1 Soesres_NiHMPU_S1 H1 Homo sapiens cDNA clone IMAGE:3844091 3' similar to TR-P87892 P87892 PROTEASE ;   |
| 11783            | 25434           | 2              | 1.0E-51           | AV760590.1                       | EST_HUMAN             | AV760590 MDS Homo sapiens cDNA clone MDSCB8B02 5' |   |
| 10587            | 23282           | 36320          | 1.39              | 9.0E-52                          | R91638.1              | EST_HUMAN   | YQ10H04_r1 Soesres fetal liver spleen 1NF1S Homo sapiens cDNA clone IMAGE:196567 5' similar to SP:YGAF_ECOLI P37539 HYPOTHEICAL PROTEIN IN GABP 3 REGION ;    |
| 10587            | 23282           | 36521          | 1.39              | 9.0E-52                          | RA77621.1             | EST_HUMAN   | YQ10H04_r1 Soesres fetal liver spleen 1NF1S_S1 Homo sapiens cDNA clone IMAGE:196567 5' similar to SP:YGAF_ECOLI P37539 HYPOTHEICAL PROTEIN IN GABP 3 REGION ; |
| 12301            | 24726           |                | 5.38              | 9.0E-52                          | AA77621.1             | EST_HUMAN   | z85a07.51 Soesres fetal liver spleen 1NF1S_S1 Homo sapiens cDNA clone IMAGE:4448500 3' similar to contains THR<3 THR repetitive element ;                     |
| 148              | 12863           | 25685          | 9.89              | 8.0E-52                          | AA720574.1            | EST_HUMAN   | rw21g02x1 NCI_CGAP_GCB0 Homo sapiens cDNA clone IMAGE:1241138 3' similar to contains THR<3 THR repetitive element ;   |
| 1482             | 14229           | 26915          | 1.65              | 8.0E-52                          | X84900.1              | NT  | H.sapiens mRNA for laminin-5, alpha2b chain   |

Table 4  
Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Meet Similar (Top) Hit BLAST E Value | Top Hit No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-------------|-------------------------|---|
| 1650             | 14398           | 27085          | 3.13              | 8.0E-52                              | 11988028    | NT                      | Homo sapiens hypothetical protein FLJ13556 similar to N-myc downstream regulated 3 (FLJ13556), mRNA   |
| 1650             | 14398           | 27088          | 3.13              | 8.0E-52                              | 11988028    | NT                      | Homo sapiens hypothetical protein FLJ13556 similar to N-myc downstream regulated 3 (FLJ13556), mRNA   |
| 3978             | 14398           | 27085          | 6.6               | 8.0E-52                              | 11988028    | NT                      | Homo sapiens hypothetical protein FLJ13556 similar to N-myc downstream regulated 3 (FLJ13556), mRNA   |
| 3978             | 14398           | 27088          | 6.6               | 8.0E-52                              | 11988028    | NT                      | Homo sapiens hypothetical protein FLJ13556 similar to N-myc downstream regulated 3 (FLJ13556), mRNA   |
| 7417             | 20094           | 33178          | 0.67              | 8.0E-52                              | 11416585    | NT                      | Homo sapiens transforming growth factor, beta-induced, 68kD (TGFB1), mRNA   |
| 7417             | 20094           | 33179          | 0.67              | 8.0E-52                              | 11416585    | NT                      | Homo sapiens transforming growth factor, beta-induced, 68kD (TGFB1), mRNA   |
| 8911             | 21602           | 34745          | 2.04              | 7.0E-52                              | W58471.1    | EST_HUMAN               | zcc58471.1 Scores_Brain_tumor_NbHPA_Homo sapiens cDNA clone IMAGE:328578 5' similar to contains Alu repetitive element  |
| 1184             | 13918           |                | 0.78              | 6.0E-52                              | BE072409.1  | EST_HUMAN               | QV3-BT0537-271299-049-d07 BT0537_Homo sapiens cDNA, Homo sapiens S164 gene, partial cds; and S171 gene, partial cds   |
| 1688             | 14433           | 27129          | 4.27              | 6.0E-52                              | AF108907.1  | NT                      | cp94f04_x1 Scores_tests_NHT_Homo sapiens cDNA clone IMAGE:1838047 3'  |
| 5641             | 18433           | 31349          | 0.88              | 6.0E-52                              | AI205794.1  | EST_HUMAN               | t246f04_y1 NC_OGAP_Bm52_Homo sapiens cDNA clone IMAGE:2291671 5' similar to SW:PGBM_MOUSE_Q05783 BASEMENT MEMBRANE-SPECIFIC HEPARAN SULFATE PROTEOGLYCAN CORE PROTEIN PRECURSOR ; |
| 11170            | 23837           | 37119          | 1.84              | 6.0E-52                              | BE048172.1  | EST_HUMAN               | Hom sapiens FSHD region gene 1 (FRG1), mRNA   |
| 2892             | 21059           | 35132          | 0.6               | 6.0E-52                              | 11457365    | NT                      | Hom sapiens FSHD region gene 1 (FRG1), mRNA   |
| 1723             | 14468           | 27165          | 1.32              | 4.0E-52                              | 4501922     | NT                      | Homo sapiens adenylyl cyclase activating polypeptide 1 (pituitary) receptor type I (ADCYAP1R1), mRNA  |
| 1780             | 14521           | 27225          | 1.02              | 4.0E-52                              | 4758843     | NT                      | Homo sapiens nucleophorin 155kD (NUP155) mRNA   |
| 3908             | 16658           | 29297          | 0.89              | 4.0E-52                              | 4507500     | NT                      | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TIAM1) mRNA   |
| 5204             | 18012           | 30633          | 1.33              | 4.0E-52                              | 4508132     | NT                      | Homo sapiens phosphatidylinositol pyrophosphate synthetase-associated protein 2 (PRPSAP2) mRNA  |
| 5204             | 18012           | 30634          | 1.33              | 4.0E-52                              | 4508132     | NT                      | Homo sapiens phosphatidylinositol pyrophosphate synthetase-associated protein 2 (PRPSAP2) mRNA  |
| 7838             | 20633           | 33760          | 1.74              | 4.0E-52                              | BE622032.1  | EST_HUMAN               | 601440687F1 NIH_MGC_72_Homo sapiens cDNA clone IMAGE:3916838 5'   |
| 8432             | 21125           | 34263          | 5.48              | 4.0E-52                              | 11417035    | NT                      | Homo sapiens hydroxysteroid (17-beta) dehydrogenase 4 (HSD17B4), mRNA   |
| 12143            | 24631           |                | 5.11              | 4.0E-52                              | 11418177    | NT                      | Homo sapiens Ran GTPase activating protein 1 (RANGAP1), mRNA  |
| 12627            | 24930           |                | 5.23              | 4.0E-52                              | AB002059.1  | NT                      | Homo sapiens DNA for Human P2Xm, complete cds   |
| 4971             | 16815           |                | 10.57             | 3.0E-52                              | 11437042    | NT                      | Homo sapiens hypothetical protein FLJ10675 (FLJ10675), mRNA   |
| 549              | 13332           | 25962          | 2.88              | 2.0E-52                              | M10876.1    | NT                      | Human endogenous retroviral DNA (+1), complete retroviral segment   |
| 549              | 13332           | 25963          | 2.88              | 2.0E-52                              | M10876.1    | NT                      | Human endogenous retroviral DNA (+1), complete retroviral segment   |

Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|--|
| 2503             | 15220           | 27983          | 2.04              | 2.0E-52                          | BE207575.1            | EST_HUMAN               | bb6607.y1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE3030421 5' similar to gb:X16483 M.musculus mRNA for Zfp-1 zinc finger protein (MOUSE);                |
| 2740             | 15445           |                | 8.03              | 2.0E-52                          | BF577892.1            | EST_HUMAN               | 602034710F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE:4248891 5'  |
| 4820             | 17649           | 30280          | 2.13              | 2.0E-52                          | AL137198.3            | NT                      | Novel human gene mapping to chromosome 20, similar to membrane transporters  |
| 4952             | 17873           | 30287          | 1.29              | 2.0E-52                          | AI141802.1            | EST_HUMAN               | qa56805.s1 Soares_NHMPu_S1 Homo sapiens cDNA clone IMAGE:1680784 3'  |
| 4952             | 17679           | 30288          | 1.29              | 2.0E-52                          | AI141802.1            | EST_HUMAN               | qa56805.s1 Soares_NHMPu_S1 Homo sapiens cDNA clone IMAGE:1680784 3'  |
| 5817             | 18413           | 31326          | 4.11              | 2.0E-52                          | AW848041.1            | EST_HUMAN               | IL3-CT0214-231269-053-E12 CT0214 Homo sapiens cDNA Homo sapiens Interleukin 21 receptor (IL21R), mRNA  |
| 6224             | 19047           | 32224          | 1.98              | 2.0E-52                          | 111418688             | NT                      | Homo sapiens mRNA for KIAA1081 protein, partial cds  |
| 6813             | 19376           | 32380          | 0.89              | 2.0E-52                          | AB298004.1            | NT                      | os45d12.y5 NCI_CGAP_Br2 Homo sapiens cDNA clone IMAGE:1608311 5'   |
| 6843             | 19543           | 32571          | 1.17              | 2.0E-52                          | AI702146.1            | EST_HUMAN               | Macaca mulatta beta-tubulin mRNA, complete cds   |
| 8551             | 21243           |                | 9.03              | 2.0E-52                          | AF147830.1            | NT                      | 74505.s1 Soares_Fetal_liver_spleen_1NFLS_S1 Homo sapiens cDNA clone IMAGE:4532727 3'   |
| 8834             | 21528           | 34672          | 0.81              | 2.0E-52                          | AA778795.1            | EST_HUMAN               | Homo sapiens NADH dehydrogenase (ubiquinone) Fe-S protein 5 (15D) (NADH-coenzyme Q reductase) (NDUF5) mRNA   |
| 8979             | 21954           |                | 0.88              | 2.0E-52                          | 4758789               | NT                      | Homo sapiens SET domain and maniner transposase fusion gene (SETMAR) mRNA  |
| 10015            | 22663           | 35879          | 5.53              | 2.0E-52                          | 5730038               | NT                      | Homo sapiens SET domain and maniner transposase fusion gene (SETMAR) mRNA  |
| 10016            | 22663           | 35880          | 5.63              | 2.0E-52                          | 6730038               | NT                      | W48c04.x1 NCI_CGAP_Lut10 Homo sapiens cDNA clone IMAGE:2408150 3' similar to contains TH-β2 THR repetitive element;                                    |
| 11165            | 23832           | 37111          | 3.15              | 2.0E-52                          | AI831462.1            | EST_HUMAN               | W48c04.x1 NCI_CGAP_Lut10 Homo sapiens cDNA clone IMAGE:2408150 3' similar to contains TH-β2 THR repetitive element;                                    |
| 11165            | 23832           | 37112          | 3.15              | 2.0E-52                          | AI831462.1            | EST_HUMAN               | AV715377 DGB Homo sapiens cDNA clone DCBAIE03 5'   |
| 11173            | 23845           | 37131          | 3.09              | 2.0E-52                          | AV715377.1            | EST_HUMAN               | zg48g12.r1 Soares_fetal heart NBH19W Homo sapiens cDNA clone IMAGE:344038 5'   |
| 11325            | 24016           |                | 1.72              | 2.0E-52                          | W70260.1              | EST_HUMAN               | Homo sapiens LIM domain Kinase 2 (LIMK2), mRNA   |
| 11618            | 24215           |                | 2.78              | 2.0E-52                          | 11417890              | NT                      | xn72a07.x1 NCI_CGAP_CML1 Homo sapiens cDNA clone IMAGE:2700036 3' similar to contains AU repetitive element; contains element LTR2 repetitive element; |
| 11931            | 25408           | 30501          | 24.36             | 2.0E-52                          | AW236297.1            | EST_HUMAN               | wf67d05.x1 SoaresNFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2360349 3' similar to TR-C168369 Q168359 CARBOXYL ESTERASE;                                |
| 12350            | 24756           |                | 4.49              | 2.0E-52                          | AI808985.1            | EST_HUMAN               | zu75h12.s1 Soares testis NIH Homo sapiens cDNA clone IMAGE:743879 3'   |
| 620              | 13304           | 25337          | 1.98              | 1.0E-52                          | AA634445.1            | EST_HUMAN               | Homo sapiens glutamate-ammonia ligase (glutamine synthase)(GLUL) mRNA  |
| 1350             | 14083           | 26773          | 37.84             | 1.0E-52                          | 4504026               | NT                      | Homo sapiens arylsulfatase D (ARSD), transcript variant 1, mRNA  |
| 2537             | 15252           |                | 0.9               | 1.0E-52                          | 4502238               | NT                      | pol-reverse transcriptase homolog [retroviral element] human, endogenous retroviral element RTV-L-1p1, Genomic, 660 nt                                 |
| 3055             | 15821           | 28465          | 2.67              | 1.0E-52                          | S61070.1              | NT                      | Human P-glycoprotein (MDR1) gene, exon 4   |
| 5250             | 18056           | 30684          | 4.35              | 1.0E-52                          | M23426.1              | NT                      | Human P-glycoprotein (MDR1) gene, exon 4   |
| 6300             | 18073           | 32059          | 2.51              | 1.0E-52                          | U38964.1              | NT                      | Human PMS2 related (IPM)SR2 gene, complete cds   |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|--|
| 7330             | 20012           | 33080          | 5.31              | 1.0E-52                    | X07292.1              | NT                      | Human adducin C gene for fructose-1,6-bisphosphate aldolase  |
| 8364             | 21057           |                | 1.2               | 1.0E-52                    | AL163227.2            | NT                      | Homo sapiens chromosome 21 segment HS21C027  |
| 8887             | 21776           | 34940          | 0.75              | 1.0E-52                    | AF078779.1            | NT                      | Rettus nonnegicis putative four repeat ion channel mRNA, complete cds                                  |
| 10476            | 23122           |                | 1.03              | 1.0E-52                    | AW020370.1            | EST_HUMAN               | df08g05.y1 Morton Fetal Cachea Homo sapiens cDNA clone IMAGE:2483145 5'                                |
| 10486            | 23132           |                | 1.39              | 1.0E-52                    | AL1632022             | NT                      | Homo sapiens chromosome 21 segment HS21C022  |
| 10685            | 23558           | 36598          | 1.61              | 1.0E-52                    | U48286.1              | NT                      | Homo sapiens protein tyrosine phosphatase PTPCAAX1 (hPTPCAAX1) mRNA, complete cds                      |
| 10740            | 23427           |                | 2.09              | 1.0E-52                    | 11426321              | NT                      | Homo sapiens proteasome (prosome, macropain) subunit, beta type, 2 (PSMB2), mRNA                       |
| 3771             | 16523           | 28161          | 1.05              | 9.0E-53                    | 4506064               | NT                      | Homo sapiens protein kinase, cAMP-dependent, regulatory, type II, beta (PRKAR2B) mRNA                  |
| 4359             | 17087           | 28732          | 1.86              | 9.0E-53                    | AF001446.1            | NT                      | Homo sapiens core binding factor alpha1 subunit (CBFA1) gene, exon 3                                   |
| 12189            | 24650           |                | 3.18              | 7.0E-53                    | BF2238485.1           | EST_HUMAN               | 60190477TF1 NIH_MGC_54 Homo sapiens cDNA clone IMAGE:4132793 5'  |
| 12600            | 25285           |                | 4.92              | 7.0E-53                    | AI421782.1            | EST_HUMAN               | ff44D7_x1 NCI_COAP_Bm23 Homo sapiens cDNA clone IMAGE:2088977 3' similar to contains THRH              |
| 5088             | 17805           | 30422          | 1.02              | 6.0E-53                    | BE285718.1            | EST_HUMAN               | THRH repetitive element:   |
| 4078             | 16822           | 29448          | 2.28              | 5.0E-53                    | 4758543               | NT                      | 6011175777TF1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:3530946 5'                                      |
| 12236            | 24688           |                | 1.98              | 5.0E-53                    | AW813563.1            | EST_HUMAN               | Homo sapiens heterogeneous nuclear ribonucleoprotein C (C1/C2) (HNRPC) mRNA                            |
| 48               | 12877           | 25602          | 2.76              | 4.0E-53                    | AL163226.2            | NT                      | RCG3-ST0197-151089-011-q10 ST0197 Homo sapiens cDNA  |
| 48               | 12877           | 25503          | 2.76              | 4.0E-53                    | AL163225.2            | NT                      | Homo sapiens chromosome 21 segment HS21C085  |
| 4771             | 17503           | 30125          | 1.03              | 4.0E-53                    | 7705414               | NT                      | Homo sapiens hook1 protein (HOOK1), mRNA   |
| 8816             | 21983           |                | 0.98              | 4.0E-53                    | AI613037.1            | EST_HUMAN               | Iy08h04-x1 NCI_CGAP_U3 Homo sapiens cDNA clone IMAGE:2278327 3'  |
| 9658             | 22308           |                | 0.67              | 4.0E-53                    | FJ13080.1             | EST_HUMAN               | HSC3ID041 normalized infant brain cDNA Homo sapiens cDNA clone c-3k04                                  |
| 11175            | 23842           | 37126          | 2.78              | 4.0E-53                    | BF128701.1            | EST_HUMAN               | 601810968TF1 NIH_MGC_48 Homo sapiens cDNA clone IMAGE:4053977 5'                                       |
| 11176            | 23842           | 37127          | 2.78              | 4.0E-53                    | BF128701.1            | EST_HUMAN               | 601810968TF1 NIH_MGC_48 Homo sapiens cDNA clone IMAGE:4053977 5'                                       |
| 2865             | 15375           | 28114          | 1.77              | 3.0E-53                    | AB026888.1            | NT                      | Homo sapiens DNA, DLEC1 to ORCTL4 gene region, section 1/2 (DLEC1, ORCTL3, ORCTL4 genes, complete cds) |
| 4549             | 17284           | 28914          | 0.74              | 3.0E-53                    | AW803563.1            | EST_HUMAN               | fL2UM0081-240300-065-D03 UM0081 Homo sapiens cDNA  |
| 5359             | 16142           | 30803          | 0.7               | 3.0E-53                    | AF001212.1            | NT                      | Homo sapiens proteasome subunit 9 mRNA, complete cds   |
| 55338            | 16538           | 31243          | 0.92              | 3.0E-53                    | 11526287              | NT                      | Homo sapiens MIL1 protein (MIL1), mRNA   |
| 6101             | 16879           | 31848          | 0.95              | 3.0E-53                    | BE160025.1            | EST_HUMAN               | QV1-HT0412-280300-123-c04 HT0412 Homo sapiens cDNA   |
| 63898            | 19690           | 32740          | 1.04              | 3.0E-53                    | Y10388.3              | NT                      | H_sapiens_graf gene  |
| 63898            | 19690           | 32741          | 1.04              | 3.0E-53                    | Y10388.3              | NT                      | H_sapiens_graf gene  |
| 8203             | 20897           | 34034          | 12.52             | 3.0E-53                    | S72043.1              | NT                      | GIF=growth inhibitory factor [human, brain, Genomic, 2015 nt]  |
| 6758             | 21450           | 34597          | 0.65              | 3.0E-53                    | 10835090              | NT                      | Homo sapiens bone morphogenic protein 5 (BMP5), mRNA   |
| 8855             | 21646           |                | 8.41              | 3.0E-53                    | 5901953               | NT                      | Homo sapiens FGFR1 oncogene partner (FOP), mRNA  |
| 11828            | 24410           | 37746          | 2.78              | 3.0E-53                    | 8923598               | NT                      | Homo sapiens hypothetical protein FLJ20844 (FLJ20844), mRNA  |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|--|--------------------|
| 446              | 13231           |                | 5.82              | 2.0E-53 AA386568.1               | EST_HUMAN             | EST77525 Pancreas tumor III  Homo sapiens cDNA 5' and  |                    |
| 2327             | 15052           | 27783          | 2.78              | 2.0E-53 U78027.1                 | NT                    | Homo sapiens Bruton's tyrosine kinase (BTK), alpha-D-galactosidase A (GLA), L44-like ribosomal protein (L44L) and FTP3 (FTP3) genes, complete cds                                  |                    |
| 2538             | 15253           |                | 8.73              | 2.0E-53                          | 4502316 NT            | Homo sapiens ATPase H+ transporting lysosomal (vacuolar proton pump) 31kD; Vacuolar proton ATPase subunit E; V-ATPase, subunit E (ATP6E), mRNA                                     |                    |
| 2729             | 16436           | 28172          | 1.46              | 2.0E-53                          | 4757915 NT            | Homo sapiens core-binding factor, runt domain, alpha subunit 2; translocated to; 1; cyclin D-related (CBFA2T1) mRNA  |                    |
| 2729             | 16436           | 28173          | 1.46              | 2.0E-53                          | 4757915 NT            | Homo sapiens core-binding factor, runt domain, alpha subunit 2; translocated to; 1; cyclin D-related (CBFA2T1) mRNA  |                    |
| 3239             | 18001           | 28651          | 3.72              | 2.0E-53 AF083822.1               | NT                    | Homo sapiens dihydroxyridine receptor alpha 2 subunit (CACNA2D1) gene, exon 6  |                    |
| 4036             | 16781           | 28411          | 2.63              | 2.0E-53 M81873.1                 | NT                    | Human Krueppel-related DNA-binding protein (TF34) gene, partial cds  |                    |
| 5340             | 18143           | 30804          | 2.67              | 2.0E-53 BF334740.1               | EST_HUMAN             | PM1-C70386-170800-001-903 CT0396 Homo sapiens cDNA   |                    |
| 6340             | 18143           | 30805          | 2.67              | 2.0E-53 BF334740.1               | EST_HUMAN             | PM1-C70386-170800-001-903 CT0396 Homo sapiens cDNA   |                    |
| 7770             | 20468           | 33590          | 1                 | 2.0E-53 AW975698.1               | EST_HUMAN             | EST387707 MAGE resequences, MAGN Homo sapiens cDNA   |                    |
| 8308             | 21975           |                | 3.82              | 2.0E-53 AW245678.1               | EST_HUMAN             | 2822655, Spriime NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2822655 5'  |                    |
| 1428             | 14175           | 26860          | 1.51              | 1.0E-53 AJ271736.1               | NT                    | Homo sapiens Xq pseudautosomal region, segment 2/2   |                    |
| 3404             | 16162           | 28813          | 1.08              | 1.0E-53 AB028898.1               | NT                    | Homo sapiens DNA, DLEC1 to ORC1L4 gene region, section 1/2 (DLEC1, ORC1L3, ORC1L4 genes, complete cds)   |                    |
| 6563             | 18358           | 32370          | 1.52              | 1.0E-53 BF384201.1               | EST_HUMAN             | CM4-NN1029-150800-543-802 NN1029 Homo sapiens cDNA   |                    |
| 7147             | 19834           | 32803          | 0.68              | 1.0E-53 BE012071.1               | EST_HUMAN             | RC5-BN1058-270400-031-001 BN1058 Homo sapiens cDNA   |                    |
| 7838             | 20531           | 33658          | 0.54              | 1.0E-53 AA248072.1               | EST_HUMAN             | B6571.seq.F Human fetal heart, Lambda ZAP Express Homo sapiens cDNA 6  |                    |
| 8987             | 21677           | 34826          | 5.91              | 1.0E-53 X78536.1                 | NT                    | H. sapiens mRNA for hnRNP core protein A1  |                    |
| 11833            | 24417           | 37757          | 1.41              | 1.0E-53 XB8411.1                 | NT                    | H. sapiens mRNA for myosin-IE  |                    |
| 11833            | 24417           | 37758          | 1.41              | 1.0E-53 XB8411.1                 | NT                    | H. sapiens mRNA for myosin-IE  |                    |
| 11955            | 24507           | 37255          | 2.29              | 1.0E-53 AW245422.1               | EST_HUMAN             | 2822949, Spriime NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2822949 3'  |                    |
| 5219             | 25063           | 30851          | 6.16              | 9.0E-54                          | 4508786 NT            | Homo sapiens IQ motif containing GTPase activating protein 1 (IQGAP1) mRNA   |                    |
| 2022             | 13016           | 26865          | 2.4               | 8.0E-54 BE386785.1               | EST_HUMAN             | 601272863F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:3614031 5'  |                    |
| 1827             | 14566           | 27273          | 1.77              | 8.0E-54                          | 4504610 NT            | Homo sapiens insulin-like growth factor 2 receptor (IGF2R) mRNA  |                    |
| 5845             | 18633           | 31568          | 28.87             | 8.0E-54                          | 60005700 NT           | Homo sapiens ATP-binding cassette, sub-family A (ABC1), member 8 (ABCAB8), mRNA at70c12.s1 Socres_nestis_NHT Homo sapiens cDNA clone 1377046 3' similar to contains MER30.12 MER30 |                    |
| 375              | 13200           | 25845          | 1.27              | 7.0E-54 AA812537.1               | EST_HUMAN             | repetitive element;  |                    |
| 1822             | 14561           | 27273          | 1.65              | 7.0E-54 Y16845.1                 | NT                    | Homo sapiens mRNA for monocyte chemoattractant protein-2   |                    |
| 2202             | 14930           | 27687          | 6.38              | 7.0E-54 N27177.1                 | EST_HUMAN             | yw68d12.s1 Socres_placenta_8to9weeks_2NbHP8to9W Homo sapiens cDNA clone IMAGE:257389 3' similar to contains LTR7.b3 LTR7 repetitive element;                                       |                    |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal: | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source                | Top Hit Descriptor   |
|------------------|-----------------|----------------|--------------------|--------------------------------------|-----------------------|--|--|
| 10028            | 22676           | 35892          | 2.08               | 7.0E-54                              | 11417222              | NT                                     | Homo sapiens similar to nuclear factor related to kappa B binding protein (H. sapiens) (LOC83182), mRNA                          |
| 11047            | 23717           | 369886         | 1.74               | 7.0E-54                              | 8923698               | NT                                     | Homo sapiens golgin-like protein (GLP), mRNA   |
| 11047            | 23717           | 36987          | 1.74               | 7.0E-54                              | 8923698               | NT                                     | Homo sapiens golgin-like protein (GLP), mRNA   |
| 11261            | 23923           |                | 4.35               | 7.0E-54                              | AI160188.1            | EST_HUMAN                              | qb67g03.x1 Scorae_fetal_heart_NbH19W Homo sapiens cDNA clone IMAGE:1705204 3' similar to contains OFR:H OFR repetitive element;  |
| 11811            | 24400           | 37738          | 1.49               | 7.0E-54                              | AF1111672             | NT                                     | Homo sapiens jun dimerization protein gene, partial cds; cfos gene, complete cds; and unknown gene                               |
| 11811            | 24400           | 37737          | 1.49               | 7.0E-54                              | AF1111672             | NT                                     | Homo sapiens jun dimerization protein gene, partial cds; cfos gene, complete cds; and unknown gene                               |
| 22               | 12850           | 26465          | 1.41               | 6.0E-54                              | AB003618.1            | NT                                     | Homo sapiens DNA for MICB3, exon 4, 5, and partial cds   |
| 376              | 13201           | 25848          | 6.83               | 6.0E-54                              | 89221148              | NT                                     | Homo sapiens hypothetical protein DKFZp434M035 (DKFZp434M035), mRNA  |
| 376              | 13201           | 25847          | 6.83               | 6.0E-54                              | 89221148              | NT                                     | Homo sapiens hypothetical protein DKFZp434M035 (DKFZp434M035), mRNA  |
| 3277             | 16038           | 28698          | 0.77               | 6.0E-54                              | 89221148              | NT                                     | Homo sapiens hypothetical protein DKFZp434M035 (DKFZp434M035), mRNA  |
| 3988             | 16734           | 28388          | 1.81               | 6.0E-54                              | 4502872               | NT                                     | Homo sapiens chloride channel 6 (CLCN6) mRNA   |
| 4429             | 17165           | 29794          | 0.86               | 6.0E-54                              | AV754748              | TP_Homo sapiens cDNA clone TPGAAC10.5' |  |
| 4792             | 17523           | 30146          | 1.78               | 6.0E-54                              | 4505806               | NT                                     | Homo sapiens phosphatidylinositol 4-kinase, catalytic, alpha polypeptide (PI(4)CA) mRNA  |
| 4819             | 17550           |                | 1.15               | 6.0E-54                              | Y09848.1              | NT                                     | H. sapiens etc pseudogene, p86 isoform   |
| 11432            | 23199           | 38430          | 1.51               | 6.0E-54                              | AW813567.1            | EST_HUMAN                              | RC3-ST0197-151098-011-008 ST0197 Homo sapiens cDNA   |
| 2146             | 14678           | 27611          | 3.73               | 5.0E-54                              | P51523                | SWISSPROT                              | ZINC FINGER PROTEIN 84 (ZINC FINGER PROTEIN 84)  |
| 178              | 12890           |                | 13.34              | 4.0E-54                              | AF110103.1            | NT                                     | Tupaia belangeri beta-actin mRNA, partial cds  |
| 886              | 13703           | 26368          | 57.5               | 4.0E-54                              | AA306764.1            | EST_HUMAN                              | EST177863 Jurkat T-cells VI Homo sapiens cDNA 5' end similar to glyceraldehyde-3-phosphate dehydrogenase                         |
| 1788             | 14538           | 27248          | 3.22               | 4.0E-54                              | D38521.1              | NT                                     | Human mRNA for KIAA0077 gene, partial cds  |
| 1788             | 14538           | 27249          | 3.22               | 4.0E-54                              | D38521.1              | NT                                     | Human mRNA for KIAA0077 gene, partial cds  |
| 3189             | 16932           |                | 1                  | 4.0E-54                              | AI835086.1            | EST_HUMAN                              | O02711 PRO-POL-DUTTASE POLYPROTEIN; wt26d11.x1 Scorae_NFI_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2328269 3' similar to TR:O02711 |
| 92               | 12918           | 28555          | 4.47               | 3.0E-54                              | AA313487.1            | EST_HUMAN                              | EST185377 Colon carcinoma (HCC) cell line Homo sapiens cDNA 5' end   |
| 1665             | 14312           |                | 0.91               | 3.0E-54                              | AW515742.1            | EST_HUMAN                              | hd87608.x1 NCI_CGAP_Gc6 Homo sapiens cDNA clone IMAGE:2916542 3'   |
| 2574             | 16228           | 28025          | 0.86               | 3.0E-54                              | AL110388.1            | EST_HUMAN                              | DKFZp434E0731_H_434 (synonym: Hs6s3) Homo sapiens cDNA clone DKFZp434E0731 5'  |
| 2630             | 15342           |                | 1.34               | 3.0E-54                              | AI908757.1            | EST_HUMAN                              | IL-BT189-190389-007 BT189 Homo sapiens cDNA  |
| 5814             | 18603           | 31531          | 1.74               | 3.0E-54                              | 4502434               | NT                                     | Homo sapiens BMX non-receptor tyrosine kinase (BMX) mRNA   |
| 7288             | 18971           | 33048          | 2.1                | 3.0E-54                              | AA844061.1            | EST_HUMAN                              | aa322c08.s1 Scorae_perithyroid_tumor_NbHPA_Homo sapiens cDNA clone IMAGE:13888270 3'   |
| 7288             | 18971           | 33049          | 2.1                | 3.0E-54                              | AA844061.1            | EST_HUMAN                              | aa322c08.s1 Scorae_perithyroid_tumor_NbHPA_Homo sapiens cDNA clone IMAGE:13888270 3'   |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor                              |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|---|---|
| 10949            | 23827           |                | 1.63              | 3.0E-54                    | 11434806 NT           | Homo sapiens golgi subunit, golgi subfamily a, 5 (GOLGA5), mRNA   |   |
| 11024            | 23698           | 36939          | 4.93              | 3.0E-54                    | BF345600.1 EST_HUMAN  | 60201940871 NCI_CGAP_Bm67 Homo sapiens cDNA clone IMAGE:4156121 5' ZT07H12.11 Soares_tests_NHT Homo sapiens cDNA clone IMAGE:727727 5' similar to TR-G101315 G101315 ANDROGEN-DEPENDENT EXPRESSED PROTEIN ; |   |
| 11341            | 24031           | 37335          | 3.26              | 3.0E-54                    | AA393382.1 EST_HUMAN  | EST3686529 MAGE sequences, MAGC_Homo sapiens cDNA RC1-BT0313-131189-011-h09 BT0313 Homo sapiens cDNA  |   |
| 12056            | 24573           | 31119          | 2.98              | 3.0E-54                    | AW954589.1 EST_HUMAN  | Homo sapiens killer cell lectin-like receptor subfamily G, member 1 (KLRG1), mRNA   |   |
| 12087            | 25373           |                | 2.61              | 3.0E-54                    | AW748985.1 EST_HUMAN  | 50319000 NT   | Homo sapiens nuclear antigen Sp100 (SP100) mRNA |
| 627              | 13408           | 26040          | 8.86              | 2.0E-54                    |                       | Homo sapiens fetal brain clone IMAGE:2783784 5' similar to contains element L1 m78a09.s1 NCI_CGAP_P13 Homo sapiens cDNA clone IMAGE:1204600 similar to contains element L1 repetitive element ;             |   |
| 1344             | 14092           | 26787          | 0.98              | 2.0E-54                    | 4507164 NT            | eu92g03.y1 Schneider fetal brain 00304 Homo sapiens cDNA clone IMAGE:2783784 5' similar to SW-CU11_HUMAN Q13616 CULIN_HOMOLOG_1 ;   |   |
| 15339            | 14288           | 26972          | 1.37              | 2.0E-54                    | AA655008.1 EST_HUMAN  | Homo sapiens chromosome 21 segment HS21CC10 wY60b12.x1 Soares_NSF_F8_9W_OT_PA_P_S1 Homo sapiens cDNA clone IMAGE:2552927 3' similar to TR-Q62084 Q62084 PHOSPHOLIPASE_C_NEIGHBORING ;                       |   |
| 2541             | 15255           | 27985          | 1.22              | 2.0E-54                    | AW163175.1 EST_HUMAN  | Homo sapiens mRNA for phospholipase C-beta-1b (PLCB1 gene)  |   |
| 2608             | 15320           | 28082          | 1.65              | 2.0E-54                    | AL1632102 NT          | m45p09.s1 NCI_CGAP_P9 Homo sapiens cDNA clone IMAGE:9954988 similar to gb:K53777 60S RIBOSOMAL PROTEIN L23 (HUMAN);   |   |
| 2698             | 15633           | 28311          | 1.52              | 2.0E-54                    | AW057524.1 EST_HUMAN  | Home sapiens chaperonin containing 1-complex subunit 6 (CCT6) mRNA  |   |
| 3311             | 16071           | 28721          | 1.18              | 2.0E-54                    | AJ278314.1 NT         | Home sapiens small inducible cytokine subfamily A (Cys-Cys), member 14 (SCYA14) mRNA  |   |
| 3658             | 16292           |                | 3.2               | 2.0E-54                    | AA532925.1 EST_HUMAN  | t23c11.y1 NCI_CGAP_Bm52 Homo sapiens cDNA clone IMAGE:2281348 5'  |   |
| 4181             | 16921           |                | 2.98              | 2.0E-54                    | 4502842 NT            | Home sapiens small inducible cytokine subfamily A (Cys-Cys), member 14 (SCYA14) mRNA  |   |
| 4825             | 17558           | 30178          | 1.02              | 2.0E-54                    | 7708448 NT            | Home sapiens small inducible cytokine subfamily A (Cys-Cys), member 14 (SCYA14) mRNA  |   |
| 5388             | 18188           | 30880          | 1.84              | 2.0E-54                    | 47580989 NT           | Home sapiens small inducible cytokine subfamily A (Cys-Cys), member 14 (SCYA14) mRNA  |   |
| 5518             | 18314           | 31216          | 1.2               | 2.0E-54                    | BEG47884.1 EST_HUMAN  | t23c11.y1 NCI_CGAP_Bm52 Homo sapiens cDNA clone IMAGE:2281348 5'  |   |
| 5575             | 18469           | 31395          | 5.04              | 2.0E-54                    | 11426857 NT           | Home sapiens KIAA0100 gene product (KIAA0100), mRNA   |   |
| 5771             | 18562           | 31489          | 13.89             | 2.0E-54                    | AB046811.1 NT         | Home sapiens mRNA for KIAA1581 protein, partial cds   |   |
| 5771             | 18562           | 31490          | 13.98             | 2.0E-54                    | AB046811.1 NT         | Home sapiens mRNA for KIAA1581 protein, partial cds   |   |
| 6559             | 18324           | 32231          | 0.88              | 2.0E-54                    | AF008915.1 NT         | Home sapiens EV15 homolog mRNA, complete cds  |   |
| 6713             | 18628           | 32672          | 0.65              | 2.0E-54                    | AB023212.1 NT         | Home sapiens mRNA for KIAA0895 protein, partial cds   |   |
| 6713             | 19628           | 32673          | 0.65              | 2.0E-54                    | AB023212.1 NT         | Home sapiens mRNA for KIAA0895 protein, partial cds   |   |
| 7023             | 19715           | 32772          | 8.8               | 2.0E-54                    | 11426544 NT           | Home sapiens neurofibromin 1 (neurofibromatosis, von Recklinghausen disease, Watson disease) (NF1), mRNA  |   |
| 9529             | 22182           | 35366          | 4.11              | 2.0E-54                    | AB001025.1 NT         | Home sapiens mRNA for brain tyrosine receptor, complete cds   |   |
| 9609             | 22558           | 35753          | 0.79              | 2.0E-54                    | 11429127 NT           | Home sapiens Janus kinase 2 (a protein tyrosine kinase) (JAK2), mRNA  |   |
| 10021            | 22869           | 35895          | 1.01              | 2.0E-54                    | 11416782 NT           | Home sapiens serologically defined colon cancer antigen 10 (SDCCAG10), mRNA   |   |
| 10021            | 22869           | 35896          | 1.01              | 2.0E-54                    | 11416782 NT           | Home sapiens serologically defined colon cancer antigen 10 (SDCCAG10), mRNA   |   |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|--|--------------------|
| 10847            | 18924           | 32331          | 1.57              | 2.0E-54 AF008915.1               | NT                    | Homo sapiens EV15 hamatog mRNA, complete cds   |                    |
| 11727            | 24521           |                | 2.86              | 2.0E-54 7657454                  | NT                    | Homo sapiens <i>poeciliops</i> (zebrafish) homolog 1, containing BRCT domain (PES1), mRNA  |                    |
| 4432             | 17168           |                | 1.22              | 1.0E-54 BT315418.1               | EST_HUMAN             | 601889230F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:4128535 5'  |                    |
| 10163            | 22801           | 38018          | 0.52              | 1.0E-64 AA412409.1               | EST_HUMAN             | zr10e08_nr_Soares_testicis_NHT_Homo_sapiens_cDNA_clone IMAGE:731484 5'   |                    |
| 10153            | 22801           | 38010          | 0.52              | 1.0E-64 AA412409.1               | EST_HUMAN             | zr10e09_nr_Soares_testicis_NHT_Homo_sapiens_cDNA_clone IMAGE:731484 5'   |                    |
| 12710            | 24898           |                | 2.17              | 1.0E-54 AU077941.1               | EST_HUMAN             | AU077341 Sugano cDNA library Homo sapiens cDNA clone Zn86C850 similar to 5'-end region of Human gamma-glutamyl transpeptidase mRNA, 5' end |                    |
| 10257            | 22805           | 380115         | 0.94              | 9.0E-55 BE081469.1               | EST_HUMAN             | QV2-BT0635-18040-143-h12_BT0635_Homo_sapiens_cDNA  |                    |
| 1282             | 14041           |                | 1.09              | 8.0E-55 Y07829.2                 | NT                    | Homo sapiens RFB30 gene for RING finger protein  |                    |
| 1285             | 14044           |                | 2.63              | 8.0E-55 Y07829.2                 | NT                    | Homo sapiens RFB30 gene for RING finger protein  |                    |
| 11151            | 23818           |                | 1.67              | 8.0E-55 AW409714.1               | EST_HUMAN             | fm02a072_x1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:2860907 5'  |                    |
| 1059             | 13817           | 28479          | 0.77              | 7.0E-55 R09346.1                 | EST_HUMAN             | y268d4_x1 Soares fetal liver spleen 1NFLS Homo_sapiens cDNA clone IMAGE:127898 5' similar to   |                    |
| 8703             | 21395           |                | 0.8               | 7.0E-55 AW103839.1               | EST_HUMAN             | SP-C561_BOVIN_P10897 CYTOCHROME; zr178c02_x1 Soares _NFL_T_GBC_S1 Homo_sapiens cDNA clone IMAGE:28603522 5' similar to TR-O860365          |                    |
| 8080             | 21769           | 34932          | 1.28              | 7.0E-55 AA889581.1               | EST_HUMAN             | O80365 FOSS38554_1.;   |                    |
| 9116             | 21803           | 34968          | 2.16              | 7.0E-55 AU1388909.1              | EST_HUMAN             | ak28a11_x1 Soares_testicis_NHT_Homo_sapiens_cDNA_clone IMAGE:1407280 3'  |                    |
| 11171            | 23838           | 37120          | 10.32             | 7.0E-65 A1581056.1               | EST_HUMAN             | AU138809 PLACE:1 Homo_sapiens cDNA clone PLACE101578 5'  |                    |
| 11171            | 23838           | 37121          | 10.32             | 7.0E-65 A1581056.1               | EST_HUMAN             | kr29f09_x1 NCI_CGAP_UH_Homo_sapiens_cDNA_clone IMAGE:2210249 3'  |                    |
| 12882            | 25303           |                | 2.6               | 7.0E-55 H23398.1                 | EST_HUMAN             | kr29f09_x1 NCI_CGAP_UH_Homo_sapiens_cDNA_clone IMAGE:2210249 3'  |                    |
| 11483            | 24089           | 37412          | 2.48              | 6.0E-55 AB040834.1               | NT                    | ym57g07_x1 Soares_infant brain 1NIB Homo_sapiens cDNA clone IMAGE:52444 5'   |                    |
| 1763             | 14505           | 27205          | 1.19              | 5.0E-55 AA704871.1               | EST_HUMAN             | Homo_sapiens mRNA for KIAA1601 protein, partial cds  |                    |
| 1763             | 14505           | 27208          | 1.19              | 5.0E-55 AA704871.1               | EST_HUMAN             | 285509_x1 Soares_fetal_liver_spleen_1NFLS_S1_Homo_sapiens_cDNA_clone IMAGE:482617 3'   |                    |
| 4720             | 17452           | 30089          | 1.81              | 5.0E-55 AW206021.1               | EST_HUMAN             | 285509_x1 Soares_fetal_liver_spleen_1NFLS_S1_Homo_sapiens_cDNA_clone IMAGE:482617 3'   |                    |
| 6446             | 19214           | 32211          | 1.65              | 5.0E-55                          | 4502240               | UI-H-BII_afy9-08-D-U1_x1 NCI_CGAP_Sub3_Homo_sapiens_cDNA_clone IMAGE:27223536 3'   |                    |
| 6446             | 19214           | 32212          | 1.65              | 5.0E-55                          | 4502240               | Homo_sapiens erysulfatase E (chondrodysplasia punctata 1) (ARSE), mRNA   |                    |
| 6558             | 25094           | 32340          | 1.34              | 5.0E-55                          | 4505952               | Homo_sapiens paroxonase 2 (PON2) mRNA, and translated products   |                    |
| 6558             | 25094           | 32341          | 1.34              | 5.0E-55                          | 4505952               | Homo_sapiens paroxonase 2 (PON2) mRNA, and translated products   |                    |
| 6937             | 19872           | 32718          | 0.83              | 5.0E-55                          | 7382477               | Homo_sapiens Rho GTPase activating protein 8 (ARHGAP6), transcript variant 5, mRNA   |                    |
| 7195             | 19881           | 32895          | 0.7               | 5.0E-55                          | 11434422              | Homo_sapiens speckle-type POZ protein (SPOP), mRNA   |                    |
| 7893             | 20588           | 33718          | 0.72              | 5.0E-55                          | 11526491              | Homo_sapiens BC-L2-associated athanogene (BAG1), mRNA  |                    |
| 8942             | 21633           | 34777          | 3.63              | 5.0E-55                          | 45068302              | Homo_sapiens protein tyrosine phosphatase, receptor type, alpha polypeptide (PTPRA) mRNA   |                    |
| 9219             | 21898           |                | 1.75              | 5.0E-55 BE084388.1               | EST_HUMAN             | RC4-BT0310-110300-075-10_BT0310_Homo_sapiens_cDNA  |                    |
| 8937             | 22585           | 35798          | 1.77              | 5.0E-55 AB014511.1               | NT                    | Home_sapiens mRNA for KIAA0611 protein, partial cds  |                    |

**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID No. | Exon SEQ ID No. | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 9837             | 22885           | 36787          | 1.77              | 5.0E-55                              | AB014811.1            | NT                      | Homo sapiens mRNA for KIAA0611 protein, partial cds  |
| 10122            | 22770           | 35984          | 2.48              | 5.0E-55                              | 5453765               | NT                      | Homo sapiens net (chicken)-like 2 (NELL2), mRNA  |
| 12137            | 24628           |                | 2.73              | 6.0E-65                              | 11417972              | NT                      | Homo sapiens pescadillo (zebrafish) homolog 1, containing BRCT domain (PEST), mRNA   |
| 657              | 13434           | 28075          | 6.4               | 4.0E-55                              | 4826973               | NT                      | Homo sapiens RNA binding motif protein, Y chromosome, family 1, member A1 (RBMY1A1) mRNA   |
| 1421             | 14169           | 26853          | 1.78              | 4.0E-65                              | 7661713               | NT                      | Homo sapiens predicted osteoblast protein (GSS3786), mRNA  |
| 1421             | 14169           | 26854          | 1.78              | 4.0E-65                              | 7661713               | NT                      | Homo sapiens predicted osteoblast protein (GSS3786), mRNA  |
| 1504             | 14250           |                | 1.7               | 4.0E-55                              | BF061411.1            | EST_HUMAN               | 752510_x1 Scores_NSF_F8_SW_OT_PA_P_S1 Homo sapiens cDNA clone IMAGE_3390043 3' similar to contains L1 L3 L1 repetitive element;    |
| 2019             | 14754           | 27482          | 0.97              | 4.0E-65                              | 4506180               | NT                      | Homo sapiens proteasome (prosome, macropain) subunit, alpha type, 2 (PSMA2) mRNA   |
| 2019             | 14754           | 27483          | 0.97              | 4.0E-55                              | 4506180               | NT                      | Homo sapiens proteasome (prosome, macropain) subunit, alpha type, 2 (PSMA2) mRNA   |
| 2079             | 14811           | 27542          | 6.47              | 4.0E-65                              | 4503314               | NT                      | Homo sapiens diacylglycerol kinase, gamma (DGKD) (DGKG) mRNA   |
| 2079             | 14811           | 27543          | 6.47              | 4.0E-65                              | 4503314               | NT                      | Homo sapiens diacylglycerol kinase, gamma (DGKD) (DGKG) mRNA   |
| 2308             | 15033           | 27771          | 2.29              | 4.0E-65                              | 4507794               | NT                      | Homo sapiens ubiquitin-conjugating enzyme E2 variant 1 (UBE2V1) mRNA   |
| 2586             | 15310           |                | 1.21              | 4.0E-65                              | AJ271735.1            | NT                      | Homo sapiens Xq_pseudoeuchromosomal region; segment Xq_pseudoeuchromosomal region; segment variant 1 (UBE2V1) mRNA                 |
| 8242             | 20935           |                | 8.37              | 4.0E-65                              | AL1632102             | NT                      | Homo sapiens chromosome 21 segment HS21C010  |
| 11194            | 23859           |                | 2.3               | 4.0E-65                              | W28189.1              | EST_HUMAN               | 43c5 Human retina cDNA randomly primed sublibrary Homo sapiens cDNA  |
| 12057            | 24574           |                | 3.05              | 4.0E-65                              | BF063941.1            | EST_HUMAN               | 601888575F2 NIH MGIC_17 Homo sapiens cDNA clone IMAGE_41205386_5   |
| 11988            | 24536           |                | 1.5               | 3.0E-65                              | BE178519.1            | EST_HUMAN               | PM1-HT0603-060300-001-508 HT0603 Homo sapiens cDNA   |
| 12721            | 24983           |                | 1.85              | 3.0E-65                              | AL1632242             | NT                      | Homo sapiens chromosome 21 segment HS21C084  |
| 398              | 13164           | 25807          | 1.98              | 2.0E-55                              | X57147.1              | NT                      | Human endogenous retrovirus pHE-1 (ERV9)   |
| 538              | 13321           |                | 1.13              | 2.0E-55                              | W10978.1              | NT                      | Human endogenous retroviral DNA (4-1), complete retroviral segment   |
| 634              | 13413           | 26049          | 13.70             | 2.0E-55                              | 4507286               | NT                      | Homo sapiens synaptobindin-binding protein 1 (STXBP1) mRNA, and translated products  |
| 4723             | 17455           | 30090          | 2.91              | 2.0E-55                              | BET19888.1            | EST_HUMAN               | CMT-HT0816-150800-357-803 HT0878 Homo sapiens cDNA   |
| 7403             | 25113           | 33162          | 0.76              | 2.0E-55                              | AW501988.1            | EST_HUMAN               | U+HF-BN0-eks-f-06-0-U_1 NIH MGIC_50 Homo sapiens cDNA clone IMAGE_3078275_5  |
| 8963             | 21654           | 34804          | 0.52              | 2.0E-55                              | SF224442.1            | EST_HUMAN               | h76h08.x1 NCI CGAP_Kid11 Homo sapiens cDNA clone IMAGE_3134463_3'  |
| 8963             | 21654           | 34805          | 0.52              | 2.0E-55                              | SF224442.1            | EST_HUMAN               | h76h08.x1 NCI CGAP_Kid11 Homo sapiens cDNA clone IMAGE_3134463_3'  |
| 8958             | 21147           |                | 8.23              | 2.0E-55                              | AI002838.1            | EST_HUMAN               | am88105_31 Strategene schizo brain S11 Homo sapiens cDNA clone IMAGE_1684185 3' similar to contains THR_b2 THR repetitive element; |
| 9140             | 21828           |                | 0.72              | 2.0E-55                              | BE00789.1             | EST_HUMAN               | QV0-BN0147-280400-213-906 BN0147 Homo sapiens cDNA   |
| 10870            | 23550           | 36788          | 1.95              | 2.0E-55                              | AU118344.1            | EST_HUMAN               | AU118344 HEMBA1 Homo sapiens cDNA clone HEMBA10055683_5'   |
| 86               | 12821           | 25558          | 3.01              | 1.0E-55                              | 4505060               | NT                      | Homo sapiens mannose-6-phosphate receptor (cation dependent) (M6PR) mRNA   |
| 184              | 12887           | 25636          | 8.22              | 1.0E-55                              | U09823.1              | NT                      | Oryctolagus cuniculus New Zealand white elongation factor 1 alpha (Refelitz2) mRNA, complete cds                                   |
| 1127             | 13883           | 26543          | 3.53              | 1.0E-55                              | AB020710.1            | NT                      | Homo sapiens mRNA for KIAA0803 protein, partial cds  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO. | Exon SEQ ID NO. | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|---|--|
| 1943             | 14678           | 27391          | 1.58              | 1.0E-55                              | BE277881.1            | EST_HUMAN   | 601120110871 NIH_MGC_20 Homo sapiens cDNA clone IMAGE-2867027 5  |
| 1943             | 14678           | 27392          | 1.58              | 1.0E-55                              | BE277881.1            | EST_HUMAN   | 601120110871 NIH_MGC_20 Homo sapiens cDNA clone IMAGE-2867027 5  |
| 2224             | 15049           |                | 2.48              | 1.0E-55                              | 5803174 NT            | Homo sapiens SMA3 (SMA3), mRNA  |  |
| 2338             | 15528           | 27789          | 1.17              | 1.0E-55                              | AF000990.1            | NT  | Homo sapiens testis-specific Testis Transcript Y1 (TTY1) mRNA, partial cds   |
| 2521             | 15237           | 27978          | 9.05              | 1.0E-55                              | X13111.1              | NT  | Human mRNA for HLA-A11E, a MHC class I molecule (major histocompatibility complex)   |
| 2559             | 15273           | 28009          | 4.19              | 1.0E-55                              | AB007888.2            | NT  | Homo sapiens mRNA for KIAA0408 protein, partial cds  |
| 2559             | 15273           | 28010          | 4.19              | 1.0E-55                              | AB007888.2            | NT  | Homo sapiens mRNA for KIAA0408 protein, partial cds  |
| 2617             | 15328           | 28071          | 1.72              | 1.0E-55                              | 54087.1               | NT  | Homo sapiens CLP mRNA, partial cds   |
| 3970             | 16719           | 28353          | 4.28              | 1.0E-55                              | AL163287.2            | NT  | Homo sapiens chromosome 21 segment HS21C067  |
| 4262             | 17003           | 28835          | 1.28              | 1.0E-55                              | AL163210.2            | NT  | Homo sapiens chromosome 21 segment HS21C010  |
| 4682             | 17416           |                | 1.02              | 1.0E-55                              | N77281.1              | EST_HUMAN   | yw4g03.11 Soares fetal liver spleen INF-S Homo sapiens cDNA clone IMAGE-245620 5   |
| 5410             | 18209           | 30917          | 0.97              | 1.0E-55                              | AF119856.1            | NT  | Homo sapiens PRO18561 mRNA, complete cds   |
| 6178             | 18955           | 31929          | 6.82              | 1.0E-55                              | 11433046 NT           | Homo sapiens hec domain and RLD 2 (HERC2), mRNA                             |  |
| 6178             | 18955           | 31930          | 6.82              | 1.0E-55                              | 11433046 NT           | Homo sapiens hec domain and RLD 2 (HERC2), mRNA                             |  |
| 7888             | 20583           | 33712          | 1.64              | 1.0E-55                              | 11432894 NT           | Homo sapiens discs, large (Drosophila) homolog 2 (chapsyn-110) (DLG2), mRNA |  |
| 7888             | 20583           | 33713          | 1.64              | 1.0E-55                              | 11432894 NT           | Homo sapiens discs, large (Drosophila) homolog 2 (chapsyn-110) (DLG2), mRNA |  |
| 7980             | 20675           | 33789          | 0.89              | 1.0E-55                              | AF224492.1            | NT  | Homo sapiens phosphatidyl scramblase 1 gene, complete cds  |
| 7980             | 20676           | 33800          | 0.89              | 1.0E-55                              | AF224492.1            | NT  | Homo sapiens phosphatidyl scramblase 1 gene, complete cds  |
| 10829            | 23511           | 38751          | 1.75              | 1.0E-55                              | AL163210.2            | NT  | Homo sapiens chromosome 21 segment HS21C010  |
| 10829            | 23511           | 38752          | 1.75              | 1.0E-55                              | AL163210.2            | NT  | Homo sapiens chromosome 21 segment HS21C010  |
| 11425            | 23192           | 38423          | 2.53              | 1.0E-55                              | U50980.1              | NT  | Human infant brain unknown product mRNA, complete cds  |
| 11444            | 23211           | 38442          | 1.5               | 1.0E-55                              | T10045.1              | EST_HUMAN   | seq1575 b4HB3MA Cat8-HAP-F1 Homo sapiens cDNA clone b4HB3MA-COT8-HAP-F61 5' similar to similar to Chinese Hamster DHFR-complified protein mRNA |
| 11569            | 24168           | 37482          | 2.35              | 1.0E-55                              | 10687821 NT           | Hom sapiens DNA-binding protein (LOC56242), mRNA                            |  |
| 7285             | 18949           | 33028          | 1.83              | 9.0E-56                              | BE379074.1            | EST_HUMAN   | 601237702F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE-3608552 5'  |
| 2737             | 15444           | 2B182          | 5.32              | 7.0E-56                              | H19834.1              | EST_HUMAN   | yn62g03.11 Soares adult brain N2b5HIB55Y Homo sapiens cDNA clone IMAGE-173044 5' similar to contains THR repetitive element;                   |
| 7540             | 20210           | 33309          | 1.67              | 7.0E-56                              | AW361213.1            | EST_HUMAN   | RC1-CT0252-231089-013-b07 CT0252 Homo sapiens cDNA   |
| 7540             | 20210           | 33310          | 1.67              | 7.0E-56                              | AW361213.1            | EST_HUMAN   | RC1-CT0252-231089-013-b07 CT0252 Homo sapiens cDNA   |
| 1687             | 14431           | 27127          | 1.78              | 5.0E-56                              | AW897712.1            | EST_HUMAN   | RC3-BN0053-170200-011-h01 BN0053 Homo sapiens cDNA   |
| 9059             | 21748           | 34608          | 0.86              | 5.0E-56                              | AW015507.1            | EST_HUMAN   | U1-H-B10-pseu-e-05-0-U1_s1 NCL_CGAP_Sub2 Homo sapiens cDNA clone IMAGE-2710544 3'  |
| 10286            | 22834           |                | 1.61              | 5.0E-56                              | W28189.1              | EST_HUMAN   | 43c5 Human retina cDNA randomly primed sublibrary-Homo sapiens cDNA  |
| 12220            | 25359           | 30610          | 2                 | 5.0E-56                              | H55098.1              | EST_HUMAN   | CHR220038 Chromosome 22 exon Homo sapiens cDNA clone C22_55 5'   |
| 26               | 12854           | 25469          | 8.68              | 4.0E-56                              | AF141349.1            | NT  | Homo sapiens beta-tubulin mRNA, complete cds   |

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**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--|
| 26               | 12854           | 25470          | 8.58              | 4.0E-56                              | AF147349.1            | NT   | Homo sapiens beta-tubulin mRNA, complete cds   |
| 2173             | 14802           |                | 2.69              | 4.0E-56                              | BF207586.1            | EST_HUMAN  | 601862058F1 NIH_MGC_63 Homo sapiens cDNA clone IMAGE:4081555 5'  |
| 2712             | 15419           | 28157          | 7.28              | 4.0E-56                              |                       | 4507728 NT   | Homo sapiens tubulin, beta polypeptide (TUBB)mRNA  |
| 2712             | 15419           | 28158          | 7.28              | 4.0E-56                              |                       | 4507728 NT   | Homo sapiens tubulin, beta polypeptide (TUBB)mRNA  |
| 2815             | 13287           | 25929          | 3.49              | 4.0E-56                              | AF003528.1            | NT   | Homo sapiens X-linked anhidrotic ectodermal dysplasia protein gene (EDA), exon 2 and flanking repeat regions               |
| 2838             | 16531           | 28074          | 1.48              | 4.0E-56                              | AI832498.1            | EST_HUMAN  | wb08f08.2x1 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE:2305191 3' similar to SW:DCOR_MUSPA P27119 ORNITHINE DECARBOXYLASE; |
| 2838             | 16531           | 28075          | 1.48              | 4.0E-56                              | AI832498.1            | EST_HUMAN  | wb08f08.2x1 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE:2305191 3' similar to SW:DCOR_MUSPA P27119 ORNITHINE DECARBOXYLASE; |
| 6164             | 18941           | 31912          | 6.01              | 4.0E-56                              | AF217508.1            | NT   | Homo sapiens uncharacterized bone marrow protein BM031 mRNA, complete cds  |
| 6164             | 18941           | 31913          | 6.01              | 4.0E-56                              | AF217508.1            | NT   | Homo sapiens uncharacterized bone marrow protein BM031 mRNA, complete cds  |
| 10403            | 23049           | 36268          | 2.02              | 4.0E-56                              | AF0434349.1           | NT   | Homo sapiens lymphocyte-specific protein 1 (LSP1) gene, LSP1-7 allele, partial cds   |
| 10841            | 23523           | 36784          | 8.88              | 4.0E-56                              | AI488098.1            | EST_HUMAN  | tmf85g12x1 NCI_CGAP_Bm25 Homo sapiens cDNA clone IMAGE:2163046 3'  |
| 10841            | 23523           | 36785          | 8.88              | 4.0E-56                              | AI488098.1            | EST_HUMAN  | tmf85g12x1 NCI_CGAP_Bm25 Homo sapiens cDNA clone IMAGE:2163046.3'  |
| 1319             | 14068           | 28742          | 4.17              | 3.0E-56                              | 8824029 NT            | Homosapiens hypothetical protein PRO1304 (PRO1304). mRNA                                   |  |
| 3122             | 15887           | 28527          | 1.54              | 3.0E-56                              | AA325828.1            | EST_HUMAN  | EST28889 Cerebellum II Homo sapiens cDNA 5' end  |
| 3122             | 15887           | 28528          | 1.54              | 3.0E-56                              | AA325828.1            | EST_HUMAN  | EST28889 Cerebellum II Homo sapiens cDNA 5' end  |
| 3815             | 16557           |                | 1.61              | 3.0E-56                              | AF055066.1            | NT   | Homo sapiens Mi-TC class 1 region  |
| 4366             | 17083           | 29728          | 1.43              | 3.0E-56                              | 7857042 NT            | Homosapiens Down syndrome candidate region 1 (DSCR1). mRNA                                 |  |
| 4380             | 17127           | 29759          | 4.27              | 3.0E-56                              | AI163238.2            | NT   | Homosapiens chromosome 21 segment HS21C988   |
| 4534             | 17289           | 28802          | 2.34              | 3.0E-56                              | 6802095 NT            | Homosapiens superkiller viralicidic activity 2 (S. cerevisiae homolog)-like (SKIV2L). mRNA |  |
| 5588             | 18388           | 31302          | 2.12              | 3.0E-56                              | 4759163 NT            |  | Homo sapiens sparc/cetosnectin, cncv and kazal-like domains proteoglycan (testican) (SPOCK) mRNA                           |
| 5588             | 18388           | 31303          | 2.12              | 3.0E-56                              | 4759163 NT            |  | Homo sapiens sparc/cetosnectin, cncv and kazal-like domains proteoglycan (testican) (SPOCK) mRNA                           |
| 6775             | 19519           | 32547          | 7.03              | 3.0E-56                              | 11421124 NT           |  | Homo sapiens lysosomal-associated membrane protein 2 (LAMP2). mRNA   |
| 7223             | 19908           | 32981          | 1.15              | 3.0E-56                              | 4604970 NT            |  | Homo sapiens LIM binding domain 2 (LDB2). mRNA   |
| 7223             | 19908           | 32982          | 1.15              | 3.0E-56                              | 4604970 NT            |  | Homo sapiens LIM binding domain 2 (LDB2). mRNA   |
| 8715             | 21407           | 34550          | 4.86              | 3.0E-56                              | 11418704 NT           |  | Homo sapiens bone morphogenetic protein 6 (BMP6). mRNA   |
| 8713             | 22384           | 35562          | 0.85              | 3.0E-56                              | D83479.2 NT           |  | Homo sapiens mRNA for KIAA0146 protein, partial cds  |
| 10379            | 23025           | 36240          | 1.38              | 3.0E-56                              | 11434956 NT           |  | Homo sapiens KIAA0317 gene product (KIAA0317). mRNA  |
| 10842            | 23333           | 36571          | 1.71              | 3.0E-56                              | AB042556.1            | NT   | Homo sapiens mRNA, similar to rat myomegatin, complete cds   |
| 11284            | 23945           | 37239          | 8.37              | 3.0E-56                              | 5902013 NT            |  | Homo sapiens nuclear pore complex interacting protein (NP)1. mRNA  |

**Table 4**  
**Single Exon Probes Expressed In Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 11284            | 23845           | 37240          | 6.37              | 3.0E-58                              | 5802013               | NT                      | Homo sapiens nuclear pore complex interacting protein (NP1P1), mRNA                     |
| 11673            | 24288           | 37590          | 1.74              | 3.0E-58                              | U46900.1              | NT                      | Homo sapiens NACP/alpha-synuclein gene, exon 5  |
| 11673            | 24268           | 37591          | 1.74              | 3.0E-58                              | U46900.1              | NT                      | Homo sapiens NACP/alpha-synuclein gene, exon 5  |
| 12095            | 24597           | 31083          | 1.52              | 3.0E-58                              | 11434878              | NT                      | Homo sapiens caveolin 3 (CAV3), mRNA  |
| 12095            | 24597           | 31084          | 1.52              | 3.0E-58                              | 11434878              | NT                      | Homo sapiens caveolin 3 (CAV3), mRNA  |
| 511              | 13285           |                | 1.7               | 2.0E-58                              | AA198918.1            | EST_HUMAN               | ZF5208.s1 Strategene neuroepithelium (#837231) Homo sapiens cDNA clone IMAGE:845208.3'  |
| 718              | 15550           | 26141          | 1.05              | 2.0E-58                              | BE084288.1            | EST_HUMAN               | RC4-BT0310-110300-015-f10 BT0310 Homo sapiens cDNA                                      |
| 718              | 15550           | 26142          | 1.05              | 2.0E-58                              | BE084288.1            | EST_HUMAN               | RC4-BT0310-110300-015-f10 BT0310 Homo sapiens cDNA                                      |
| 2987             | 15753           | 28398          | 1.18              | 2.0E-58                              | AB037835.1            | NT                      | Homo sapiens mRNA for KIAA1414 protein, partial cds                                     |
| 35223            | 16229           | 28834          | 1.64              | 2.0E-58                              | AV703184.1            | EST_HUMAN               | AV703184 ADB Homo sapiens cDNA clone ADBCFG10.5'  |
| 6980             | 19883           | 32731          | 1.47              | 2.0E-58                              | 5730038               | NT                      | Homo sapiens SET domain and mariner transposase fusion gene (SETMAR) mRNA               |
| 859              | 13724           |                | 1.84              | 1.0E-58                              | AF196830.1            | NT                      | Macaca fasciatus protein tyrosine phosphatase (PTPL-1) mRNA, complete cds               |
| 3664             | 16417           | 29056          | 2.15              | 1.0E-58                              | AW589833.1            | EST_HUMAN               | hg23c11.x1 NC_ CGAP_GC8 Homo sapiens cDNA clone IMAGE:2848452.3'                        |
| 3684             | 16417           | 29057          | 2.15              | 1.0E-58                              | AW589833.1            | EST_HUMAN               | hg23c11.x1 NC_ CGAP_GC8 Homo sapiens cDNA clone IMAGE:2848452.3'                        |
| 4972             | 17686           | 30303          | 0.99              | 1.0E-58                              | AI905162.1            | EST_HUMAN               | QV-BT077-130188-079 BT077 Homo sapiens cDNA   |
| 5118             | 17836           | 30453          | 0.97              | 1.0E-58                              | 6881002               | NT                      | Mus musculus cytoplasmic polyadenylation element binding protein (Cpeb), mRNA           |
| 6724             | 19558           | 32589          | 0.57              | 1.0E-58                              | AW609520.1            | EST_HUMAN               | MF3-ST0203-180100-208-h02 ST0203 Homo sapiens cDNA                                      |
| 9855             | 22505           |                | 0.59              | 1.0E-58                              | AL163203.2            | NT                      | Homo sapiens chromosome 21 segment HS21 C003  |
| 9948             | 22598           | 35800          | 1.71              | 1.0E-58                              | AW845987.1            | EST_HUMAN               | RC2-CT0163-220898-001-E02 C10163 Homo sapiens cDNA                                      |
| 611              | 13389           |                | 2.52              | 9.0E-57                              | AW880885.1            | EST_HUMAN               | QV0-QT0033-070300-152-h02 OT0033 Homo sapiens cDNA                                      |
| 4180             | 16920           | 29548          | 1.14              | 9.0E-57                              | 47582779              | NT                      | Homo sapiens EphA4 (EPHA4) mRNA   |
| 4180             | 16920           | 29549          | 1.14              | 9.0E-57                              | 47582779              | NT                      | Homo sapiens EphA4 (EPHA4) mRNA   |
| 11183            | 23848           | 37134          | 2.17              | 9.0E-57                              | AF228497.1            | NT                      | Homo sapiens serine protease 17 (KLK4) gene, complete cds                               |
| 11183            | 23848           | 37135          | 2.17              | 9.0E-57                              | AF228497.1            | NT                      | Homo sapiens serine protease 17 (KLK4) gene, complete cds                               |
| 11506            | 24107           | 37420          | 1.48              | 9.0E-57                              | AB029881.1            | NT                      | Homo sapiens mRNA for cyclin B2, complete cds   |
| 280              | 13096           | 25738          | 3.01              | 8.0E-57                              | AW818405.1            | EST_HUMAN               | QV4-ST0234-181188-037-h05 ST0234 Homo sapiens cDNA                                      |
| 884              | 13633           | 28303          | 6.38              | 8.0E-57                              | AW264690.1            | EST_HUMAN               | JO05410.x1 NC_ CGAP_Bm53 Homo sapiens cDNA clone IMAGE:2759251 3' similar to gtx:U05575 |
| 1809             | 14549           | 27284          | 1.51              | 8.0E-57                              | AA498100.1            | EST_HUMAN               | INTERFERON-GAMMA RECEPTOR/BETA CHAIN PRECURSOR (HUMAN)                                  |
| 3376             | 16135           | 28791          | 0.98              | 8.0E-57                              | 47582778              | NT                      | Zf51b12.1  Soares,_Soares,_testis_NHT Homo sapiens cDNA clone IMAGE:757151.5'           |
| 3378             | 16135           | 28792          | 0.98              | 8.0E-57                              | 47582779              | NT                      | Homo sapiens EphA4 (EPHA4) mRNA   |
| 4852             | 17682           | 30205          | 1.3               | 8.0E-57                              | 4557630               | NT                      | Homo sapiens glutamate receptor, ionotropic, AMPA 4 (GRIA4), mRNA                       |
| 5161             | 25276           | 30728          | 3.29              | 8.0E-57                              | 11418185              | NT                      | Homo sapiens aconitase 2, mitochondrial (ACO2), mRNA                                    |
| 6306             | 18078           | 32063          | 1.25              | 8.0E-57                              | AB020705.1            | NT                      | Homo sapiens mRNA for KIAA0686 protein, partial cds                                     |

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Table 4  
Single Exon Probes Expressed In Brain

| Probe Seq ID No: | Exon seq ID No: | ORF seq ID No: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 6372             | 18141           | 32137          | 12.87             | 8.0E-57                              | AB023177.1            | NT                      | Human sapiens mRNA for KIAA09850 protein, partial cds   |
| 6372             | 18141           | 32138          | 12.87             | 8.0E-57                              | AB023177.1            | NT                      | Human sapiens mRNA for KIAA09850 protein, partial cds   |
| 7349             | 20030           | 33107          | 0.84              | 8.0E-57                              | 7682263               | NT                      | Human sapiens KIAA0716 gene product (KIAA0716), mRNA  |
| 7848             | 20312           | 33423          | 1.7               | 8.0E-57                              | AB020644.1            | NT                      | Human sapiens mRNA for KIAA06837 protein, partial cds   |
| 7848             | 20312           | 33424          | 1.7               | 8.0E-57                              | AB020644.1            | NT                      | Human sapiens mRNA for KIAA06837 protein, partial cds   |
| 11460            | 17889           | 30487          | 3.29              | 8.0E-57                              | 89223349              | NT                      | Human sapiens hypothetical protein FJ_20371 (FJ_20371), mRNA  |
| 12459            | 24828           | 31028          | 2.74              | 8.0E-57                              | 11646732              | NT                      | Human sapiens SH3-domain binding protein 1 (SH3BP1), mRNA   |
| 12473            | 24828           | 31028          | 1.69              | 8.0E-57                              | 11545732              | NT                      | Human sapiens SH3-domain binding protein 1 (SH3BP1), mRNA   |
| 12620            | 25060           |                | 2.07              | 8.0E-57                              | AB031773.1            | NT                      | Human sapiens mRNA for KIAA1342 protein, partial cds  |
| 26339            | 16350           | 28093          | 1.71              | 7.0E-57                              | 7687592               | NT                      | Human sapiens sing GDS-ASSOCIATED PROTEIN (SMAP), mRNA  |
| 26339            | 16350           | 28094          | 1.71              | 7.0E-57                              | 7687592               | NT                      | Human sapiens sing GDS-ASSOCIATED PROTEIN (SMAP), mRNA  |
| 3244             | 16008           | 28656          | 0.9               | 7.0E-57                              | 7242158               | NT                      | Human sapiens NME7 (NME7), mRNA   |
| 3244             | 16008           | 28656          | 0.9               | 7.0E-57                              | 7242168               | NT                      | Human sapiens NME7 (NME7), mRNA   |
| 3265             | 16027           | 28677          | 1.08              | 7.0E-57                              | 6005979               | NT                      | Human sapiens Kruppel-like factor 8 (KLF8), mRNA  |
| 3858             | 16608           | 28246          | 1.39              | 7.0E-57                              | AF012872.1            | NT                      | Human sapiens phosphatidylinositol 4-kinase 230 (PI4K230), mRNA, complete cds   |
| 3858             | 16608           | 28247          | 1.39              | 7.0E-57                              | AF012872.1            | NT                      | Human sapiens phosphatidylinositol 4-kinase 230 (PI4K230), mRNA, complete cds   |
| 4398             | 17135           |                | 0.95              | 7.0E-57                              | AF020503.1            | NT                      | Human sapiens FRA3B common fragile region, diadenosine triphosphate hydrolase (FHIT) gene, exon 5                         |
| 4730             | 17462           | 30086          | 0.95              | 7.0E-57                              | U11058.2              | NT                      | Human sapiens large conductance calcium- and voltage-dependent potassium channel alpha subunit (Maddk) mRNA, complete cds |
| 12785            | 25310           |                | 2.63              | 5.0E-57                              | AJ271735.1            | NT                      | Human sapiens Xq pseudautosomal region; segment 1/2   |
| 3736             | 16489           | 29125          | 1.57              | 4.0E-57                              | AB026888.1            | NT                      | Human sapiens DNA, DLEC1 to ORC1L4 gene region, section 1/2 (DLEC1, ORC1L3, ORC1L4 genes, complete cds)                   |
| 788              | 13558           | 28220          | 0.78              | 3.0E-57                              | 4507798               | NT                      | Human sapiens ubiquitin protein ligase E3A (human papilloma virus E6-associated protein, Angelman syndrome) (UBE3A) mRNA  |
| 1308             | 14056           |                | 16.24             | 3.0E-57                              | AA230278.1            | EST_HUMAN               | No1307.51 NCI_CGAP_Pri1 Human sapiens cDNA clone IMAGE:1008037 similar to SW:RS10_HUMAN                                   |
| 2380             | 15111           | 27848          | 2.89              | 3.0E-57                              | AA348335.1            | EST_HUMAN               | P46783 4qs RIBOSOMAL PROTEIN S10.; EST154770 Hippocampus II Human sapiens cDNA 5' end                                     |
| 2707             | 15414           | 28151          | 0.85              | 3.0E-57                              | BE676822.1            | EST_HUMAN               | 7733810.x1 NCI_CGAP_CLL1 Human sapiens cDNA clone IMAGE:3286443 3' similar to WP:Y47H8C2 CE20283;                         |
| 2707             | 15414           | 28152          | 0.95              | 3.0E-57                              | BE676822.1            | EST_HUMAN               | 7733810.x1 NCI_CGAP_CLL1 Human sapiens cDNA clone IMAGE:3286443 3' similar to WP:Y47H8C2 CE20283;                         |
| 3550             | 16305           | 28955          | 1.74              | 3.0E-57                              | AF232708.1            | NT                      | Human sapiens cell-line tsA201a chitoside ion current inducer protein (CCh) gene, complete cds                            |
| 3685             | 16438           |                | 62.34             | 3.0E-57                              | AW853864.1            | EST_HUMAN               | RC3-CT0254-110300-027-410 CT0254 Human sapiens cDNA   |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--|
| 5939             | 18721           | 31680          | 1.24              | 3.0E-57                              | 11226608 NT           | Homo sapiens angiotensin I converting enzyme (peptidyl-dipeptidase A) 2 (ACE2), mRNA   |  |
| 6033             | 18813           | 31773          | 3.23              | 3.0E-57                              | BE796537.1            | EST_HUMAN  | 6015898565F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:3944302 5'  |
| 8044             | 20738           | 33871          | 3.77              | 3.0E-57                              | W28130.1              | EST_HUMAN  | 4226 Human retina cDNA randomly primed sublibrary Homo sapiens cDNA  |
| 8070             | 20764           | 33892          | 2.16              | 3.0E-57                              | 11546798 NT           | Homo sapiens hypothetical protein FLJ11688 (FLJ11688), mRNA                            |  |
| 8070             | 20764           | 33893          | 2.16              | 3.0E-57                              | 11546798 NT           | Homo sapiens hypothetical protein FLJ11688 (FLJ11688), mRNA                            |  |
| 8173             | 20873           | 34008          | 0.77              | 3.0E-57                              | 11427757 NT           | Homo sapiens KIAA0649 gene product (KIAA0649), mRNA                                    |  |
| 8328             | 21021           | 34157          | 0.73              | 3.0E-57                              | J05262.1              | NT   | Human famen3 pyrophosphate synthetase mRNA, complete cds   |
| 8757             | 21449           | 34598          | 4.17              | 3.0E-57                              | AU117889.1            | EST_HUMAN  | AU117859 HEMBA1 Homo sapiens cDNA clone HEMBA1001910 5'  |
| 9149             | 21880           | 35047          | 1.03              | 3.0E-57                              | 11546798 NT           | Homo sapiens hypothetical protein FLJ11688 (FLJ11688), mRNA                            |  |
| 9149             | 21880           | 35048          | 1.03              | 3.0E-57                              | 11546798 NT           | Homo sapiens hypothetical protein FLJ11688 (FLJ11688), mRNA                            |  |
| 10825            | 22508           | 36747          | 2.65              | 3.0E-57                              | AW248374.1            | EST_HUMAN  | 2820473.5 prime NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2820473 5'   |
| 12101            | 22931           | 30616          | 8.38              | 3.0E-57                              | W23871.1              | EST_HUMAN  | Zb45d11.1T_Scares_fetal_lung_NBHL19W Homo sapiens cDNA clone IMAGE:3065549 5'  |
| 12460            | 25281           |                | 2.32              | 3.0E-57                              | AW178575.1            | EST_HUMAN  | RC04HT0112-080899-001-C38 HT0112 Homo sapiens cDNA   |
| 12623            | 24828           | 31010          | 1.48              | 3.0E-57                              | AJ003849.1            | EST_HUMAN  | AJ003849 Selected chromosome 21 cDNA library-Homo sapiens cDNA clone MP1p10-L1   |
| 1487             | 14234           | 26919          | 1.39              | 2.0E-57                              | AF246219.1            | NT   | Homo sapiens SNARE protein kinesin SNAK mRNA, complete cds   |
| 1487             | 14234           | 26920          | 1.39              | 2.0E-57                              | AF246219.1            | NT   | Homo sapiens SNARE protein kinesin SNAK mRNA, complete cds   |
| 3432             | 16188           |                | 1.24              | 2.0E-57                              | AL163204.2            | NT   | Homo sapiens chromosome 21 segment HS21C004  |
| 3810             | 16680           | 28301          | 0.78              | 2.0E-57                              | BE073264.1            | EST_HUMAN  | MFO-BT0551-060300-103-B03 BT0551 Homo sapiens cDNA   |
| 4474             | 17209           | 28834          | 0.73              | 2.0E-57                              | AL163283.2            | NT   | Homo sapiens chromosome 21 segment HS21C033  |
| 5582             | 18379           |                | 1.84              | 2.0E-57                              | AA016131.1            | EST_HUMAN  | zg1ic05.11 Scares retina N2b4H-R Homo sapiens cDNA clone IMAGE:360584 5' similar to contains L1.3 L1 repetitive element;   |
| 5643             | 18725           |                | 33.81             | 2.0E-57                              | BF115286.1            | EST_HUMAN  | 7n8070-x1 NCI_CGAP_Ov18 Homo sapiens cDNA clone IMAGE:35709365 5' similar to contains TARR1M MEF22 repetitive element;     |
| 6007             | 18846           | 31810          | 0.98              | 2.0E-57                              | 11431281 NT           | Homo sapiens small inducible cytokine subfamily A (Cys-Cys), member 22 (SCYAA22), mRNA |  |
| 8529             | 21221           | 34363          | 1.08              | 2.0E-57                              | AF045452.1            | NT   | Homo sapiens cell-line KG1 transscriptional regulatory protein p54 mRNA, complete cds                                      |
| 9746             | 22397           | 35602          | 1.88              | 2.0E-57                              | AF057722.1            | NT   | Homo sapiens 17-beta-hydroxysteroid dehydrogenase IV (HSD17B4) gene, exons 3 and 4   |
| 10525            | 23171           | 36398          | 0.49              | 2.0E-57                              | 11434330 NT           | Homo sapiens KIAA1065 protein (KIAA1065), mRNA   |  |
| 10525            | 23171           | 36399          | 0.49              | 2.0E-57                              | 11434330 NT           | Homo sapiens KIAA1065 protein (KIAA1065), mRNA   |  |
| 11228            | 23901           | 37189          | 2.42              | 2.0E-57                              | 11424084 NT           | Homo sapiens hypothetical protein FLJ20041 (FLJ20041), mRNA                            |  |
| 11228            | 23901           | 37190          | 2.42              | 2.0E-57                              | 11424084 NT           | Homo sapiens hypothetical protein FLJ20041 (FLJ20041), mRNA                            |  |
| 8593             | 21285           |                | 3.82              | 1.0E-57                              | B043031.1             | EST_HUMAN  | ho32208.x1 NCL_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3039062 3' similar to TR-O00246 O00248 HYPOTHETICAL 9.3 KD PROTEIN; |
| 12249            | 24896           |                | 5.08              | 1.0E-57                              | AW470791.1            | EST_HUMAN  | ha33206.x1 NCL_CGAP_Kid12 Homo sapiens cDNA clone IMAGE:2875499 3' similar to contains THR.63 TIR repetitive element;      |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe Seq ID No: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 5591             | 18387           | 31207          | 0.98              | 9.0E-58                              | AA287847.1            | EST_HUMAN               | EST11348 Utens Homo sapiens cDNA 5' end   |
| 12516            | 24865           | 31015          | 1.55              | 9.0E-58                              | BE395061.1            | EST_HUMAN               | 601309465F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3631000 5'   |
| 675              | 13356           |                | 1.76              | 8.0E-58                              | BE868715.1            | EST_HUMAN               | 601445948F1 NIH_MGC_85 Homo sapiens cDNA clone IMAGE:3850211 5'   |
| 639              | 13418           | 28055          | 4.18              | 8.0E-58                              | AI798378.1            | EST_HUMAN               | UNNAMED HERV-H PROTEIN; tr34b07.x1 NCI CGAP_Ov23 Homo sapiens cDNA clone IMAGE:2220181 3' similar to TR-O15475 O15475 |
| 639              | 13418           | 28056          | 4.18              | 8.0E-58                              | AI798378.1            | EST_HUMAN               | UNNAMED HERV-H PROTEIN; tr34b07.x1 NCI CGAP_Ov23 Homo sapiens cDNA clone IMAGE:2220181 3' similar to TR-O15475 O15475 |
| 1849             | 14587           | 27301          | 2.37              | 8.0E-58                              | 11434921 NT           | EST_HUMAN               | UNNAMED HERV-H PROTEIN; Homo sapiens putative protein O-mannosyltransferase (POMT2), mRNA                             |
| 1849             | 14587           | 27302          | 2.37              | 8.0E-58                              | 11434921 NT           | EST_HUMAN               | Homo sapiens putative protein O-mannosyltransferase (POMT2), mRNA   |
| 2974             | 15740           |                | 2.32              | 8.0E-58                              | 7706132 NT            | EST_HUMAN               | Homo sapiens DHHC1 protein (LOC61304), mRNA   |
| 10762            | 23446           |                | 5.87              | 7.0E-58                              | 5174542 NT            | EST_HUMAN               | Homo sapiens MADS box transcription enhancer factor 2, poly peptide B (myocytis enhancer factor 2B) (MEF2B), mRNA     |
| 10847            | 23529           | 36773          | 3.6               | 7.0E-58                              | AW504109.1            | EST_HUMAN               | UHF-BN0-all-3-10-0-J1 NIH_MGC_50 Homo sapiens cDNA clone IMAGE:3078867 5'   |
| 10847            | 23529           | 36774          | 3.6               | 7.0E-58                              | AW504109.1            | EST_HUMAN               | UHF-BN0-all-3-10-0-J1 NIH_MGC_50 Homo sapiens cDNA clone IMAGE:3078867 5'   |
| 2251             | 14979           | 27718          | 1.02              | 8.0E-58                              | BE395061.1            | EST_HUMAN               | 601309465F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3631000 5'   |
| 2375             | 15097           | 27837          | 3.78              | 8.0E-58                              | AU130689.1            | EST_HUMAN               | AUJ30689 NT2RP3 Homo sapiens cDNA clone NT2RP301283 5'  |
| 2902             | 15668           | 28316          | 1.2               | 8.0E-58                              | BE242150.1            | EST_HUMAN               | TCAAP1E1219 Pediatric acute myelogenous leukemia cell (FAB M1) Baylor-HGSC project=TCAA Human                         |
| 2902             | 15668           | 28317          | 1.2               | 8.0E-58                              | BE242150.1            | EST_HUMAN               | TCAAP1E1219 Pediatric acute myelogenous leukemia cell (FAB M1) Baylor-HGSC project=TCAA Human                         |
| 9078             | 18857           | 31624          | 1.01              | 9.0E-58                              | AF100911.1            | NT                      | Homo sapiens chitinase Mif-2 gamma (Mif-2 gamma) mRNA, complete cds   |
| 10208            | 22858           | 36072          | 0.79              | 8.0E-58                              | 11434748 NT           | EST_HUMAN               | Homo sapiens protein tyrosine phosphatase, non-receptor type 21 (PTPN21), mRNA  |
| 12347            | 24754           |                | 1.68              | 6.0E-58                              | 11626281 NT           | EST_HUMAN               | Homo sapiens hypothetical protein FLJ20454 (FLJ20454), mRNA   |
| 263              | 13089           | 25740          | 3.79              | 5.0E-58                              | 4507334 NT            | EST_HUMAN               | Homo sapiens synaptobatin 1 (SYNU1), mRNA   |
| 694              | 13469           | 26116          | 6.41              | 5.0E-58                              | BE763984.1            | EST_HUMAN               | RC4-NT0057-160600-016-005 NT0057 Homo sapiens cDNA  |
| 11172            | 13926           | 26568          | 2.98              | 5.0E-58                              | AW707848.1            | EST_HUMAN               | CK3-UM043-240300-127-807 UM0043 Homo sapiens cDNA   |
| 11172            | 13926           | 26569          | 2.98              | 5.0E-58                              | AW707848.1            | EST_HUMAN               | CK3-UM043-240300-127-807 UM0043 Homo sapiens cDNA   |
| 11173            | 13926           | 26569          | 2.78              | 6.0E-58                              | AW707848.1            | EST_HUMAN               | CK3-UM043-240300-127-807 UM0043 Homo sapiens cDNA   |
| 11173            | 13926           | 26569          | 2.76              | 5.0E-58                              | AW707848.1            | EST_HUMAN               | CK3-UM043-240300-127-807 UM0043 Homo sapiens cDNA   |
| 3317             | 16077           | 28727          | 4.32              | 5.0E-58                              | AA988183.1            | EST_HUMAN               | cr88e07.x1 NCI CGAP_Li5 Homo sapiens cDNA clone IMAGE:1603908 3'  |
| 4229             | 16970           | 28594          | 0.92              | 5.0E-58                              | AI636745.1            | EST_HUMAN               | ts88e07.x1 NCI CGAP_GC6 Homo sapiens cDNA clone IMAGE:2238468 3' similar to SW:PRO2_ACACA PROFILIN II;                |
| 5541             | 18338           |                | 2.32              | 6.0E-58                              | 11496282 NT           | EST_HUMAN               | Homo sapiens placenta-specific 1 (PLAC1), mRNA  |
| 6835             | 18863           | 31829          | 6.98              | 5.0E-58                              | H23072.1              | EST_HUMAN               | ym51n07.x1 Soares infant brain 1NIB Homo sapiens cDNA clone IMAGE:52071 5'  |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO. | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 6301             | 18074           | 32080          | 0.95              | 5.0E-58                              | AI163285.2            | NT                      | Homo sapiens chromosome 21 segment HS21C085  |
| 6379             | 19148           | 32147          | 1.61              | 5.0E-58                              | 114421330             | NT                      | Homo sapiens apical protein, <i>Xenopus leaflet-like (APXL)</i> , mRNA   |
| 66830            | 19597           | 32635          | 0.88              | 5.0E-58                              | AF051334.1            | NT                      | Homo sapiens ribrin (NBS) mRNA, complete cds   |
| 66830            | 18597           | 32636          | 0.88              | 5.0E-58                              | AF051334.1            | NT                      | Homo sapiens ribrin (NBS) mRNA, complete cds   |
| 7008             | 19698           | 32752          | 0.73              | 5.0E-58                              | 4885400               | NT                      | Homo sapiens holoxyochrome c synthase (cytochrome c haeme-lyase) (HCCS) mRNA   |
| 78689            | 20564           | 33691          | 7.89              | 5.0E-58                              | 8922683               | NT                      | Homo sapiens hypothetical protein FLJ10828 (FLJ10828), mRNA  |
| 82551            | 20945           | 34083          | 0.7               | 5.0E-58                              | AB046837.1            | NT                      | Homo sapiens mRNA for KIAA1617 protein, partial cds  |
| 92339            | 21918           | 35089          | 0.88              | 5.0E-58                              | 6231227               | NT                      | Homo sapiens ribonuclease 6 precursor (RNASE6P1) mRNA  |
| 92339            | 21918           | 36080          | 0.88              | 5.0E-58                              | 5231227               | NT                      | Homo sapiens ribonuclease 6 precursor (RNASE6P1) mRNA  |
| 9757             | 22408           | 35614          | 0.88              | 5.0E-58                              | 114305647             | NT                      | Homo sapiens pre-mRNA splicing factor similar to S. cerevisiae Prp18 (PRP18), mRNA   |
| 10023            | 22671           | 35887          | 1.78              | 5.0E-58                              | AI163218.2            | NT                      | Homo sapiens chromosome 21 segment HS21C018  |
| 10030            | 22847           | 36161          | 0.88              | 5.0E-58                              | AB014511.1            | NT                      | Homo sapiens mRNA for KIAA0611 protein, partial cds  |
| 10830            | 22847           | 36162          | 0.88              | 5.0E-58                              | AB014511.1            | NT                      | Homo sapiens mRNA for KIAA0611 protein, partial cds  |
| 11819            | 24405           | 37740          | 2.69              | 5.0E-58                              | 11431079              | NT                      | Homo sapiens chitinase 1 (CHIN1), mRNA   |
| 12071            | 25305           |                | 1.81              | 5.0E-58                              | 11526283              | NT                      | Homo sapiens cat eye syndrome chromosome region, candidate 1 (CECR1), mRNA   |
| 12512            | 25330           |                | 1.5               | 5.0E-58                              | 11428423              | NT                      | Homo sapiens acetyl-CoA/ma A carboxylase alpha (ACACA), mRNA   |
| 12732            | 25001           |                | 2.67              | 5.0E-58                              | 11418177              | NT                      | Homo sapiens Ran GTPase activating protein 1 (RANGAP1), mRNA   |
| 384              | 13162           | 28904          | 4.5               | 4.0E-58                              | 4502302               | NT                      | Homo sapiens ATP synthase, H <sup>+</sup> -transporting, mitochondrial F1 complex, O subunit (oligomycin sensitivity conferring protein) (ATPSO), mRNA |
| 779              | 13551           | 26212          | 0.88              | 4.0E-58                              | 4504634               | NT                      | Homo sapiens interleukin 10 receptor, beta (IL10RB), mRNA  |
| 1452             | 14189           | 28893          | 1.09              | 4.0E-58                              | 4503848               | NT                      | Homo sapiens coagulation factor IX (plasma thromboplastin component, Christmas disease, hemophilia B) (F9), mRNA                                       |
| 26337            | 15349           | 28091          | 1.7               | 4.0E-58                              | U36251.1              | NT                      | Human beta-prime-adaptin (BAM22) gene, exon 3  |
| 3319             | 16078           | 28729          | 1.03              | 4.0E-58                              | D16470.1              | NT                      | Human mRNA, Xq terminal portion  |
| 3723             | 18478           | 28113          | 1.25              | 4.0E-58                              | 5031660               | NT                      | Homo sapiens EGFR-like repeats and discoidin-like domains 3 (EDIL3), mRNA  |
| 11315            | 22974           | 37275          | 7.06              | 4.0E-58                              | 11424059              | NT                      | Homo sapiens E1B-55kDa-associated protein 5 (E1B-AP5), mRNA  |
| 326              | 13127           |                | 2.67              | 3.0E-58                              | R17787.1              | EST_HUMAN               | ygt0e02_r1 Soares Infant brain 1NIIB Homo sapiens cDNA clone IMAGE:316883 5'   |
| 1368             | 14116           | 28781          | 2.38              | 3.0E-58                              | 4758981               | NT                      | Homo sapiens peptide YY (PYY), mRNA  |
| 3174             | 15937           | 28585          | 2.78              | 3.0E-58                              | BF569848.1            | EST_HUMAN               | 602185788F1 NIH_MGC_45 Homo sapiens cDNA clone IMAGE:4308943 5'  |
| 3174             | 15937           | 28588          | 2.78              | 3.0E-58                              | BF569848.1            | EST_HUMAN               | 602185788F1 NIH_MGC_45 Homo sapiens cDNA clone IMAGE:4308943 5'  |
| 6167             | 18844           | 31915          | 0.63              | 3.0E-58                              | BE089609.1            | EST_HUMAN               | QVO-BT0702-170400-194-809 BT0702 Homo sapiens cDNA   |
| 6352             | 19122           | 32114          | 1.43              | 3.0E-58                              | F07056.1              | EST_HUMAN               | HSC1TG081 normalized infant brain cDNA Homo sapiens cDNA clone c-11908   |
| 6544             | 19309           | 32314          | 1.4               | 3.0E-58                              | AV712977.1            | EST_HUMAN               | AV712977 DCA Homo sapiens cDNA clone DCAAZG04 5'   |
| 919              | 13686           | 26350          | 11.9              | 2.0E-58                              | AF068624.1            | NT                      | Homo sapiens 5-aminolevulinate synthase 2 (ALAS2) gene, complete cds   |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|---|--|
| 1267             | 14016           |                |                   | 10                                   | 2.0E-58 BE208532.1    | EST_HUMAN   | ba08bd07.1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2822733 5' similar to gb>X83301 60S RIBOSOMAL PROTEIN L8 (HUMAN); gb>X81987 M.musculus mRNA for TAX responsive element binding protein (MOUSE); |
| 8273             | 25065           | 30703          | 3.4               | 2.0E-58 BE907188.1                   | EST_HUMAN             | 601498881F1 NIH_MGC_70 Homo sapiens cDNA clone IMAGE:3901911 5'   |  |
| 5273             | 25065           | 30734          | 3.4               | 2.0E-58 BE907188.1                   | EST_HUMAN             | 601498881F1 NIH_MGC_70 Homo sapiens cDNA clone IMAGE:3901911 5'   |  |
| 5958             | 18748           | 31709          | 1.12              | 2.0E-58 BF513488.1                   | EST_HUMAN             | U1H-BW1-ans-g-11-0-U1.s1 NCI_CGAP_Sub7 Homo sapiens cDNA clone IMAGE:3071060 3'   |  |
| 6031             | 18811           | 31771          | 1.88              | 2.0E-58 AI124874.1                   | EST_HUMAN             | am57e02.x1 Johnston frontal cortex Homo sapiens cDNA clone IMAGE:1538674 3' similar to WP27328.1 CE05065 UBIQUITIN CONJUGATING ENZYME; RECOVERIN SUBFAMILY OF EF-HAND CALCIUM BINDING PROTEIN ; |  |
| 6062             | 18841           | 31803          | 0.8               | 2.0E-58 R92887.1                     | EST_HUMAN             | y058h08.r1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:198379 5'  |  |
| 6828             | 18489           | 32511          | 1.12              | 2.0E-58 AI281407.1                   | EST_HUMAN             | am54c01.x1 NCI_CGAP_Lu5 Homo sapiens cDNA clone IMAGE:1885424 3'  |  |
| 7058             | 18747           | 32809          | 2.83              | 2.0E-58 AF134838.1                   | NT                    | Homo sapiens endocytic receptor Endo180 (ENDO180) mRNA, complete cds  |  |
| 7058             | 18747           | 32810          | 2.83              | 2.0E-58 AF134838.1                   | NT                    | Homo sapiens endocytic receptor Endo180 (ENDO180) mRNA, complete cds  |  |
| 10641            | 23332           | 36570          | 21.77             | 2.0E-58 BF307745.1                   | EST_HUMAN             | 60183908112F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:4131891 5'   |  |
| 10885            | 23565           | 36813          | 2.43              | 2.0E-58 AW8726341.1                  | EST_HUMAN             | hm25f08.x1 NCI_CGAP_Thy4 Homo sapiens cDNA clone IMAGE:3013671 3'   |  |
| 705              | 13480           | 26128          | 0.86              | 1.0E-58 M65134.1                     | NT                    | Human complement component C5 mRNA, 3'end   |  |
| 1048             | 13805           | 26464          | 2.41              | 1.0E-58                              | G274549 NT            | Homo sapiens NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 9 (22D, B22) (NDUFB9), mRNA   |  |
| 1304             | 14053           | 26726          | 1.61              | 1.0E-58 AW9577182.1                  | EST_HUMAN             | EST369252 MAGE sequences, MAGD Homo sapiens cDNA  |  |
| 1304             | 14053           | 28727          | 1.61              | 1.0E-58 AW9577182.1                  | EST_HUMAN             | EST369252 MAGE sequences, MAGD Homo sapiens cDNA  |  |
| 1378             | 14124           | 26758          | 1.13              | 1.0E-58 AJ238083.1                   | NT                    | Homo sapiens partial AF-4 gene, exons 2 to 7 and Alu repeat elements  |  |
| 2805             | 15510           | 28251          | 2.37              | 1.0E-58                              | 4756169 NT            | Homo sapiens steroid regulatory element binding transcription factor 2 (SREBF2), mRNA   |  |
| 2834             | 14738           | 27462          | 1.6               | 1.0E-58                              | 6174444 NT            | Homo sapiens G protein-coupled receptor 68A (GPR69A) mRNA   |  |
| 3528             | 16282           | 28988          | 0.98              | 1.0E-58                              | 4758081 NT            | Homo sapiens chondroitin sulfate proteoglycan 2 (versican) (CSPG2) mRNA   |  |
| 3528             | 16282           | 28989          | 0.98              | 1.0E-58                              | 4758081 NT            | Homo sapiens chondroitin sulfate proteoglycan 2 (versican) (CSPG2) mRNA   |  |
| 4913             | 17841           | 30258          | 4.75              | 1.0E-58                              | AI141063.1 EST_HUMAN  | cz43h01.x1 Soares NihMPu_S1 Homo sapiens cDNA clone IMAGE:1678129 3'  |  |
| 5761             | 18543           | 31465          | 1.31              | 1.0E-58 BE061880.1                   | EST_HUMAN             | RCA-BT0254-280100-015-e01 BT0254 Homo sapiens cDNA  |  |
| 6764             | 19503           | 32533          | 0.8               | 1.0E-58                              | '11422031 NT          | Homo sapiens hypothetical protein (LOC51260), mRNA  |  |
| 8013             | 20708           |                | 0.5               | 1.0E-58                              | AW975537.1 EST_HUMAN  | ES1385637 MAGE sequences, MAGM Homo sapiens cDNA  |  |
| 6758             | 21460           | 34609          | 0.98              | 1.0E-58                              | 4505314 NT            | Homo sapiens myomesin (M-protein) 2 (165KD) (MYOM2), mRNA   |  |
| 8880             | 21571           | 34714          | 0.91              | 1.0E-58                              | AV751001.1 EST_HUMAN  | AV751001 NPC Homo sapiens cDNA clone NPCACH09 5'  |  |
| 8979             | 21669           | 34818          | 0.98              | 1.0E-58                              | AA412387.1 EST_HUMAN  | 288f05.J1 Soares testis NHT Homo sapiens cDNA clone IMAGE:730497 5'   |  |
| 8979             | 21669           | 34819          | 0.98              | 1.0E-58                              | AA412387.1 EST_HUMAN  | 288f05.J1 Soares testis NHT Homo sapiens cDNA clone IMAGE:730497 5'   |  |
| 10086            | 22734           | 35694          | 1.21              | 1.0E-58                              | 11432894 NT           | Homo sapiens discs, large (Drosophila) homolog 2 (chapsyn-110) (DLG2), mRNA   |  |

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Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|--|---|
| 11780            | 24871           |                |                   | 2.11                       | 1.0E-58 X633622.1     | NT   | H. sapiens Immunoglobulin kappa light chain variable region L14   |
| 11818            | 24404           | 37739          |                   | 1.57                       | 1.0E-58 D61405.1      | NT   | Human MSH3 gene, exon10   |
| 2225             | 14853           | 27691          |                   | 29.49                      | 8.0E-59 4507378 NT    |  | Homo sapiens TATA box binding protein (TBP) mRNA  |
| 8080             | 20774           | 33804          |                   | 2.49                       | 8.0E-59 A1781963.1    | EST_HUMAN  | wh50406.3d1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:2384771 3'   |
| 173              | 155338          |                |                   | 1.74                       | 8.0E-59 BF035327.1    | EST_HUMAN  | 601458531F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3862086 5'   |
| 8144             | 20838           | 33970          | 0.61              | 8.0E-59 A1780970.1         | EST_HUMAN             |  | cn06802.y1 Normal Human Trabecular Bone Cells Homo sapiens cDNA clone NHTBC_cn06802 random  |
| 1748             | 14490           | 27189          |                   | 1.32                       | 5.0E-59 AW157281.1    | EST_HUMAN  | eu823105.x1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2783885 3' similar to eu823105.x1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2783885 3' similar to |
| 1748             | 14490           | 27190          |                   | 1.32                       | 5.0E-59 AW167281.1    | EST_HUMAN  | eu823105.x1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2783885 3' similar to eu823105.x1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2783885 3' similar to |
| 3124             | 15889           | 28530          |                   | 6.98                       | 5.0E-59 A1807484.1    | EST_HUMAN  | wf48c11.x1 Soares NFL_T GBC S11 Homo sapiens cDNA clone IMAGE:2358838 3'  |
| 4810             | 17345           | 28978          | 6.56              | 5.0E-59 X83497.1           | NT                    |  | H.sapiens DNA for ZNF80-linked ERV9 long terminal repeat -  |
| 8892             | 17888           | 30526          | 7.5               | 5.0E-59 AW162304.1         | EST_HUMAN             | eu82307.x1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2781228 3' similar to contains element TAR1 repetitive element; |   |
| 8705             | 21387           | 34544          | 1.04              | 5.0E-59 11421778 NT        |                       |  | Homo sapiens polymerase (RNA) III [DNA directed] (39KD) (RPC39), mRNA   |
| 8804             | 22257           | 35443          | 1.62              | 5.0E-59 AV762888.1         | EST_HUMAN             | AV762888 MDS Homo sapiens cDNA clone MDSEIC12 5'   |   |
| 10823            | 23508           | 36745          | 3.78              | 5.0E-59 11434908 NT        |                       |  |   |
| 776              | 13648           | 28210          | 1.68              | 4.0E-59 D80006.1           | NT                    | Homo sapiens hypothetical protein (LOC57143), mRNA   |   |
| 5450             | 18249           | 31138          | 1.03              | 4.0E-59 11034810 NT        |                       |  | Human mRNA for KIAA0164 gene, partial cds   |
| 12203            | 25238           |                | 1.91              | 4.0E-59 AF057720.1         | NT                    |  | Homo sapiens catenin (cadherin-associated protein), delta 2 (neural plakophilin-related arm-repeat protein) (CTNND2), mRNA  |
| 9                | 12838           |                | 8.13              | 3.0E-58 AW865524.1         | EST_HUMAN             |  | Homo sapiens 17-beta-hydroxysteroid dehydrogenase IV (HSD17B4) gene, promoter region and exon 1   |
| 219              | 13030           | 28666          | 4.58              | 3.0E-59 7682247 NT         |                       |  | ES1377682 MAGE sequences, MA/G1 Homo sapiens cDNA   |
| 1705             | 14448           | 27147          | 8.2               | 3.0E-59 4505880 NT         |                       |  | Homo sapiens KIAA080 gene product (KIAA080), mRNA   |
| 1706             | 14448           | 27148          | 8.2               | 3.0E-59 4505880 NT         |                       |  | Homo sapiens plasmalogen activator, tissue (PLATE) mRNA   |
| 2125             | 14856           | 27585          | 5.59              | 3.0E-59 AB028035.1         | NT                    |  | Homo sapiens mRNA for KIAA1112 protein, partial cds   |
| 2125             | 14856           | 27586          | 5.59              | 3.0E-59 AB028035.1         | NT                    |  | Homo sapiens mRNA for KIAA1112 protein, partial cds   |
| 3126             | 15891           | 28534          | 3.77              | 3.0E-59 4502014 NT         |                       |  | Homo sapiens A kinase (PRKA) anchor protein 1 (AKAP1), mRNA   |
| 3128             | 15891           | 28535          | 3.77              | 3.0E-59 4502014 NT         |                       |  | Homo sapiens A kinase (PRKA) anchor protein 1 (AKAP1), mRNA   |
| 3805             | 16857           | 29189          | 1.45              | 3.0E-59 4508044 NT         |                       |  | Homo sapiens zona pellucida glycoprotein 2 (sperm receptor) (ZP2), mRNA   |
| 4638             | 17372           | 30007          | 0.98              | 3.0E-59 AL163284.2         | NT                    |  | Homo sapiens chromosome 21 segment HS21C084   |
| 4738             | 17470           | 30107          | 0.92              | 3.0E-59 4758329 NT         |                       |  | Homo sapiens Testis-specific XK-related protein on Y (XkRY) mRNA  |

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Table 4  
Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|---|--|
| 4789 17520       | 30143           |                | 1.57              | 3.0E-59                    | 7427622 NT            |   | Human sapiens protein tyrosine phosphatase, receptor type, T (PTPRT), mRNA |
| 4890 17713       |                 | 0.97           | 3.0E-59           | M85961.1                   | NT                    |   | Human prohormone converting enzyme (NEC2) gene, exon 2                     |
| 6128 18904       | 31872           | 2.12           | 3.0E-59           | 8824074 NT                 |                       |   | Human sapiens hypothetical protein PRO1741 (PRO1741), mRNA                 |
| 7259 18943       | 33020           | 1.84           | 3.0E-59           | 6484137 NT                 |                       |   | Human sapiens nuclear receptor co-repressor 1 (NCOR1), mRNA                |
| 7832 20527       | 33653           | 1.16           | 3.0E-59           | X12558.1                   | NT                    |   | Human mRNA for dbl proto-oncogene  |
| 7832 20527       | 33654           | 1.16           | 3.0E-59           | X12558.1                   | NT                    |   | Human mRNA for dbl proto-oncogene  |
| 8044 22592       | 35794           | 0.87           | 3.0E-59           | X70251.1                   | NT                    |   | H. sapiens CKII-alpha gene   |
| 8944 22592       | 35795           | 0.87           | 3.0E-59           | X70251.1                   | NT                    |   | H. sapiens CKII-alpha gene   |
| 12327 24746      |                 | 6.04           | 3.0E-59           | 114417886 NT               |                       |   | Human sapiens gamma-glutamyltransferase-like activity 1 (GGTLA1), mRNA     |
| 7683 20357       |                 | 0.71           | 2.0E-59           | BF373329.1                 | EST_HUMAN             | MR0-FT0144-250700-002-e10 FT0144 Human sapiens cDNA   |  |
| 8537 22180       |                 | 6.32           | 2.0E-59           | AA309774.1                 | EST_HUMAN             | EST180853 Junction T-cell V/Homo sapiens cDNA 5' end  |  |
| 10425 23071      |                 | 1.19           | 2.0E-59           | BF365554.1                 | EST_HUMAN             | RC0-NT0036-100700-032-e07 NT0036 Human sapiens cDNA   |  |
| 10734 23421      | 36863           | 2.6            | 2.0E-59           | AW410598.1                 | EST_HUMAN             | fl07h04_x1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:2861684 5'  |  |
| 10734 23421      | 36864           | 2.6            | 2.0E-59           | AW410598.1                 | EST_HUMAN             | fl07h04_x1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:2861684 5'  |  |
| 11311 23970      | 37724           | 1.31           | 2.0E-59           | HB1604.1                   | EST_HUMAN             | yr48n08_r1 Saccula fetal liver spleen 1NFSL Homo sapiens cDNA clone IMAGE:2088673 5' similar to SP-POL_FENV1_P31782 POL POLYPROTEIN : |  |
| 12091 24585      | 31123           | 2.83           | 2.0E-59           | AI831809.1                 | EST_HUMAN             | WE36C12-x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:23001012 3' similar to TR-QB88542   |  |
| 12605 25253      | 30719           | 4.65           | 2.0E-59           | L11645.1                   | NT                    | Q86542 RTVL-H1PROTEIN, contains LTR7_b1 LTR7 repetitive element ;   |  |
| 169 12874        |                 | 3.03           | 1.0E-59           | BE286411.1                 | EST_HUMAN             | Homo sapiens alpha-tubulin mRNA, complete cds   |  |
| 1529 14276       | 26864           | 0.93           | 1.0E-59           | T82522.1                   | EST_HUMAN             | 6011767571 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:3631827 6'  |  |
| 2412 16133       | 27870           | 1.19           | 1.0E-59           | D11456.2                   | NT                    | ye25c09_r1 Strategene lung (8837210) Homo sapiens cDNA clone IMAGE:118768 5' similar to SP-S21348                                     |  |
| 2412 15133       | 27871           | 1.19           | 1.0E-59           | D11456.2                   | NT                    | S21348 HYPOTHETICAL PROTEIN 4 :-;   |  |
| 2623 15335       |                 | 2.47           | 1.0E-59           | AA748468.1                 | EST_HUMAN             | Hom sapiens Xdh mRNA for xanthine dehydrogenase, complete cds   |  |
| 7462 20135       | 33227           | 1.08           | 1.0E-59           | AJ130684.1                 | NT                    | Hom sapiens Xdh mRNA for xanthine dehydrogenase, complete cds   |  |
| 7617 20283       | 33392           | 0.97           | 1.0E-59           | BE236814.1                 | EST_HUMAN             | 0856011.81 NCI_CGAP_GCB11 Homo sapiens cDNA clone IMAGE:1308028 3' similar to TR-Q13537   |  |
| 7617 20283       | 33393           | 0.97           | 1.0E-59           | BE236814.1                 | EST_HUMAN             | Q13537 MER37 TRANSPOSABLE ELEMENT, COMPLETE CONSENSUS SEQUENCE. ;   |  |
| 9285 22039       | 35210           | 0.88           | 1.0E-59           | 11419630 NT                |                       | Hom sapiens zinc finger protein 276 (ZNF275), mRNA  |  |
| 9504 22157       | 35337           | 0.54           | 1.0E-59           | 11428849 NT                |                       | Hom sapiens 3-hydroxyisobutyryl-Coenzyme A hydrolase (HIBCH), mRNA  |  |
| 9504 22157       | 35338           | 0.54           | 1.0E-59           | 11428849 NT                |                       | Hom sapiens 3-hydroxyisobutyryl-Coenzyme A hydrolase (HIBCH), mRNA  |  |
| 10780 20135      | 33227           | 12.88          | 1.0E-59           | AJ130684.1                 | NT                    | Hom sapiens mRNA for transciption factor  |  |
| 747 13520        | 26178           | 0.85           | 8.0E-60           | AW977845.1                 | EST_HUMAN             | EST7388649 MAGE sequences, MAGO Human sapiens cDNA  |  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 1455             | 14202           | 268868         | 2.66              | 8.0E-80                              | 4759169               | NT                      | Homo sapiens small nuclear ribonucleoprotein D3 polypeptide (18D) (SNRPD3) mRNA   |
| 2169             | 148898          | 276312         | 3.6               | 8.0E-80                              | 5174856               | NT                      | Homo sapiens differentiation-related gene 1 (nickel-specific induction protein) (RTP) mRNA                                    |
| 2169             | 148898          | 276333         | 3.6               | 8.0E-80                              | 5174856               | NT                      | Homo sapiens differentiation-related gene 1 (nickel-specific induction protein) (RTP) mRNA                                    |
| 5892             | 18877           | 316223         | 1.12              | 8.0E-80                              | AB029044.1            | NT                      | Homo sapiens mRNA for KIAA1081 protein, partial cds   |
| 6411             | 19179           | 32178          | 1.07              | 8.0E-80                              | S83182.1              | NT                      | hyaluronan-binding protein+hepatocyte growth factor activator homolog [human, plasma, mRNA, 2408 nt]                          |
| 7586             | 20284           | 33372          | 1.07              | 8.0E-80                              | 11420841              | NT                      | Homo sapiens phosphatidyltransferase 1, choline, beta isoform (PCYT1B), mRNA  |
| 7885             | 20580           | 33687          | 2.28              | 8.0E-80                              | X170383.1             | NT                      | Human mRNA for integrin alpha-2 subunit   |
| 8837             | 21529           | 34675          | 2.6               | 8.0E-80                              | 11428849              | NT                      | Homo sapiens S-antigen; retina and pineal gland (amestin) (SAG) mRNA  |
| 8371             | 21846           | 35118          | 0.98              | 8.0E-80                              | 11417118              | NT                      | Homo sapiens KIAA0433 protein (KIAA0433), mRNA  |
| 8371             | 21846           | 35119          | 0.86              | 8.0E-80                              | 11417118              | NT                      | Homo sapiens KIAA0433 protein (KIAA0433), mRNA  |
| 10473            | 23119           | 36348          | 0.59              | 8.0E-80                              | 5453897               | NT                      | Homo sapiens RAN binding protein 7 (RANBP7), mRNA   |
| 10736            | 23423           | 36666          | 6.38              | 8.0E-80                              | AL163204.2            | NT                      | Homo sapiens chromosome 21 segment HS21C04  |
| 10736            | 23423           | 36887          | 6.38              | 8.0E-80                              | AL163204.2            | NT                      | Homo sapiens chromosome 21 segment HS21C04  |
| 737              | 13511           | 26169          | 3.61              | 7.0E-80                              | AF055068.1            | NT                      | Homo sapiens MHC class 1 region   |
| 738              | 13511           | 26169          | 17.82             | 7.0E-80                              | AF055068.1            | NT                      | Homo sapiens MHC class 1 region   |
| 786              | 13588           | 26228          | 0.88              | 7.0E-80                              | 4504634               | NT                      | Homo sapiens interleukin 10 receptor, beta (IL10RB), mRNA   |
| 2124             | 14853           | 27584          | 1.08              | 7.0E-80                              | AF077188.1            | NT                      | Homo sapiens cullin 4A (CUL4A) mRNA, complete cds   |
| 2788             | 15493           | 28223          | 1.53              | 7.0E-80                              | AB011153.1            | NT                      | Homo sapiens mRNA for KIAA0581 protein, partial cds   |
| 4158             | 16898           | 29527          | 2.56              | 7.0E-80                              | 4505488               | NT                      | Homo sapiens ornithine decarboxylase 1 (ODC1) mRNA  |
| 8307             | 21874           | 35149          | 4.02              | 7.0E-80                              | H58041.1              | EST_HUMAN               | Y1204.11 Scores fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE_205087 5' similar to contains LTR5 repetitive element; |
| 11337            | 24027           | 37331          | 2.11              | 7.0E-80                              | H58041.1              | EST_HUMAN               | Y1204.11 Scores fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE_205087 5' similar to contains LTR5 repetitive element; |
| 2177             | 14806           | 27639          | 1.08              | 6.0E-80                              | BS964974.2            | EST_HUMAN               | Y168875TR1NIH_MGC_69 Homo sapiens cDNA clone IMAGE_3886068 3'   |
| 8336             | 21029           |                | 10.5              | 6.0E-80                              | H52456.1              | EST_HUMAN               | Y78408.11 Scores fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE_23592123'   |
| 82               | 12908           | 25545          | 2.29              | 5.0E-80                              | AB07917.1             | EST_HUMAN               | wf52027.X1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE_23592123'  |
| 82               | 12908           | 25546          | 2.29              | 5.0E-80                              | AB07917.1             | EST_HUMAN               | EST11498 Uterus Homo sapiens cDNA, 5' end similar to retrovirus-related pd  |
| 2872             | 15738           |                | 1.27              | 4.0E-80                              | AA289037.1            | EST_HUMAN               | hir1f05.x1 NCI_CGAP_Jkd11 Homo sapiens cDNA clone IMAGE_3134913 3' similar to SW.RHOP_MOUSE_Q61085 GTP-RHO BINDING PROTEIN 1; |
| 7253             | 19837           | 33012          | 0.89              | 4.0E-80                              | BF198608.1            | EST_HUMAN               | Homo sapiens chromosome 21 segment HS21C078   |
| 8024             | 21714           |                | 0.88              | 4.0E-80                              | AL163278.2            | NT                      | Homo sapiens vraf-1 murine leukemia viral oncogene homolog 1 (RAF1), mRNA   |
| 11267            | 23928           | 37219          | 1.29              | 4.0E-80                              | 11433587              | NT                      | Homo sapiens vraf-1 murine leukemia viral oncogene homolog 1 (RAF1), mRNA   |

Table 4

## Single Exon Probes Expressed In Brain

| Probe SEQ ID NO. | Exon SEQ ID NO. | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-------------|-------------------------|--|
| 11267            | 23929           | 37220          | 1.29              | 4.0E-60                              | 11433597    | NT                      | Homo sapiens v-raf-1 murine leukemia viral oncogene homolog 1 (RAF1), mRNA   |
| 1852             | 14590           | 27305          | 4.44              | 3.0E-60                              | BE562811.1  | EST_HUMAN               | 601336448F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3690395 5'  |
| 1852             | 14590           | 27306          | 4.44              | 3.0E-60                              | BE562811.1  | EST_HUMAN               | 601336448F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3690395 6'  |
| 1862             | 14600           |                | 1.92              | 3.0E-60                              | 6031190     | NT                      | Homo sapiens profilin (PHB) mRNA   |
| 4424             | 17160           | 29790          | 1.94              | 3.0E-60                              | AJ271725.1  | NT                      | [Homo sapiens Xq1 pseudautosomal region; segment 1/2]  |
| 6294             | 18099           | 30758          | 0.57              | 3.0E-60                              | BF365143.1  | EST_HUMAN               | QVA-NN1146-250900-423-101 NN1149 Homo sapiens cDNA   |
| 5554             | 18351           | 31260          | 2.12              | 3.0E-60                              | AW836186.1  | EST_HUMAN               | RC3-LT0023-200100-012-201 L70023 Homo sapiens cDNA   |
| 6858             | 17833           | 30559          | 1                 | 3.0E-60                              | AJ782814.1  | EST_HUMAN               | c680h11.6 NCI CGAP_Kid3 Homo sapiens cDNA clone IMAGE:1634053 5' similar to SW-UDP_MOUSE_P2624 URIDINE PHOSPHORYLASE :               |
| 8301             | 20886           | 34132          | 4.97              | 3.0E-60                              | 6174844     | NT                      | Homo sapiens proline dehydrogenase (proline oxidase) (PRODH) mRNA  |
| 8301             | 20886           | 34133          | 4.97              | 3.0E-60                              | 6174844     | NT                      | Homo sapiens proline dehydrogenase (proline oxidase) (PRODH) mRNA  |
| 8482             | 21114           | 34318          | 0.51              | 3.0E-60                              | AJ040235.1  | EST_HUMAN               | Q55609_X1 Scores NtHMPU_S1 Homo sapiens cDNA clone IMAGE:1660337 3' similar to SW_FORM_MOUSE_Q55680 FORMIN :                         |
| 8641             | 21333           | 34477          | 4.32              | 3.0E-60                              | 5174844     | NT                      | Homo sapiens proline dehydrogenase (proline oxidase) (PRODH) mRNA  |
| 85589            | 22212           | 35598          | 0.47              | 3.0E-60                              | BF102612.1  | EST_HUMAN               | 601646227F1 NIH_MGC_60 Homo sapiens cDNA clone IMAGE:3690390 6'  |
| 11162            | 23829           | 37107          | 1.28              | 3.0E-60                              | 11427120    | NT                      | Homo sapiens CG1-152 protein (LOC57130), mRNA  |
| 11162            | 23829           | 37108          | 1.28              | 3.0E-60                              | 11427120    | NT                      | Homo sapiens CG1-152 protein (LOC57130), mRNA  |
| 12888            | 25297           |                | 2.06              | 3.0E-60                              | AA4485286.1 | EST_HUMAN               | ab07104.71 Siratogene lung (#837210) Homo sapiens cDNA clone IMAGE:840151 5' similar to contains LTR10.11 LTR10 repetitive element ; |
| 29               | 12857           | 25474          | 3.63              | 2.0E-60                              | AY08225.1   | NT                      | Homo sapiens solute carrier (SLC25A16) mRNA, complete cds; nuclear gene for mitochondrial product                                    |
| 1404             | 14151           | 26831          | 7.35              | 2.0E-60                              | Z11694.1    | NT                      | H.sapiens 41kDa protein kinase related to rat ERK2   |
| 1716             | 14468           | 27165          | 1.29              | 2.0E-60                              | M24603.1    | NT                      | Human bet protein mRNA, 5' end   |
| 1724             | 14467           | 27166          | 1.59              | 2.0E-60                              | AY08225.1   | NT                      | Homo sapiens solute carrier (SLC25A16) mRNA, complete cds; nuclear gene for mitochondrial product                                    |
| 2714             | 15421           | 28160          | 1.98              | 2.0E-60                              | AW878005.1  | EST_HUMAN               | EST380114 MAGE sequences, MAGO Homo sapiens cDNA   |
| 3698             | 16321           | 28969          | 0.69              | 2.0E-60                              | 4757867     | NT                      | Homo sapiens v-raf murine sarcoma viral oncogene homolog B1 (BRAF) mRNA  |
| 3905             | 16845           | 29285          | 0.73              | 2.0E-60                              | AF231919.1  | NT                      | Homo sapiens chromosome 21 unknown mRNA  |
| 6208             | 18883           | 31882          | 0.86              | 2.0E-60                              | AJ791952.1  | EST_HUMAN               | mn01f12.5 NCI CGAP_Co0 Homo sapiens cDNA clone IMAGE:1076485 5' similar to contains THR-HI THR repetitive element;                   |
| 6400             | 19169           | 32168          | 1.87              | 2.0E-60                              | AF004487.1  | NT                      | Homo sapiens pro-alpha 2(I) collagen (COL1A2) gene, complete cds   |
| 6515             | 18378           | 32293          | 0.98              | 2.0E-60                              | AF157478.1  | NT                      | Homo sapiens DNA polymerase zeta catalytic subunit (REV3) mRNA, complete cds   |
| 6750             | 17819           | 30883          | 2.43              | 2.0E-60                              | 4503044     | NT                      | Homo sapiens corticotropin releasing hormone receptor 2 (CRHR2) mRNA   |
| 6750             | 17819           | 30884          | 2.43              | 2.0E-60                              | 4503044     | NT                      | Homo sapiens corticotropin releasing hormone receptor 2 (CRHR2) mRNA   |

Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|---|
| 7010             | 19702           | 32757          | 2.73              | 2.0E-60                          | AA311158.1            | EST_HUMAN               | EST181849 Junkt T-cells V Homo sapiens cDNA 5' end similar to prothymosin, alpha                                    |
| 7010             | 19702           | 32758          | 2.73              | 2.0E-60                          | AA311158.1            | EST_HUMAN               | EST181849 Junkt T-cells V Homo sapiens cDNA 5' end similar to prothymosin, alpha                                    |
| 7124             | 18812           | 32880          | 0.98              | 2.0E-60                          | AI308124.1            | EST_HUMAN               | tb23d09.X1 NCI_CGAP_Kid12 Homo sapiens cDNA clone IMAGE:2055185 3' similar to SW:GALR_RAT Q62805 GALANIN RECEPTOR ; |
| 7332             | 20202           |                | 0.79              | 2.0E-60                          | BF512608.1            | EST_HUMAN               | U-H-BW1-anti-c-02-0-U1.51 NCI_CGAP_Sub7 Homo sapiens cDNA clone IMAGE:3071210 3'                                    |
| 7904             | 20598           | 33729          | 0.84              | 2.0E-60                          | X855697.1             | EST_HUMAN               | HS16BEST human adult testis Homo sapiens cDNA clone CAM_TEST15  |
| 8768             | 21488           | 34608          | 3.01              | 2.0E-60                          | L36033.1              | NT                      | Human pre-B cell stimulating factor homologue (SDF1b) mRNA, complete cds  |
|                  |                 |                |                   |                                  |                       |                         | Homo sapiens sema domain, transmembrane domain (TM), and cytoplasmic domain, (semaphorin) 6A (SEMA6A), mRNA         |
| 8878             | 22528           | 35724          | 2.28              | 2.0E-60                          | 11891659              | NT                      | Homo sapiens sema domain, transmembrane domain (TM), and cytoplasmic domain, (semaphorin) 6A (SEMA6A), mRNA         |
| 8878             | 22528           | 35725          | 2.29              | 2.0E-60                          | 11891659              | NT                      | Homo sapiens sema domain, transmembrane domain (TM), and cytoplasmic domain, (semaphorin) 6A (SEMA6A), mRNA         |
| 11449            | 23216           | 36448          | 1.93              | 2.0E-60                          | 11434729              | NT                      | Homo sapiens ribosomal protein S8 kinase, 90kD, polypeptide 5 (RPS8KA5), mRNA                                       |
| 11809            | 24398           | 37732          | 1.8               | 2.0E-60                          | BF530674.1            | EST_HUMAN               | 602071973F1 NCI_CGAP_Bm87 Homo sapiens cDNA clone IMAGE:4214683 5'  |
| 11809            | 24398           | 37733          | 1.8               | 2.0E-60                          | BF530674.1            | EST_HUMAN               | 602071973F1 NCI_CGAP_Bm87 Homo sapiens cDNA clone IMAGE:4214683 5'  |
| 12384            | 24767           |                | 3.02              | 2.0E-60                          | 11418182              | NT                      | Homo sapiens non-histone chromosome protein 2 (S. cerevisiae)-like 1 (NHP2L1), mRNA                                 |
| 12484            | 25228           |                | 1.93              | 2.0E-60                          | AF068797.1            | NT                      | Homo sapiens somatostatin receptor subtype 3 (SSTR3) gene, 5' flanking region and partial cds                       |
| 12486            | 24851           |                | 2.34              | 2.0E-60                          | 11418088              | NT                      | Homo sapiens similar to HSPC0222 protein (H. sapiens) (LOC383504), mRNA   |
| 12510            | 24862           |                | 1.77              | 2.0E-60                          | AB011389.1            | NT                      | Homo sapiens gene for AF-6, complete cds  |
| 909              | 13293           | 25925          | 1.13              | 1.0E-60                          | BE178586.1            | EST_HUMAN               | PM3-LHT005-27/20/200-001-ed06 HT0505 Homo sapiens cdDNA   |
| 3882             | 16632           | 28271          | 1.16              | 1.0E-60                          | AJ43389               | EST_HUMAN               | AU143389 Y78AA1 Homo sapiens cDNA clone Y78AA1001884 5'   |
| 4901             | 17628           | 30245          | 1.2               | 1.0E-60                          | AI163285.2            | NT                      | Homo sapiens chromosome 21 segment HS21C085   |
| 7848             | 20543           | 33871          | 0.91              | 1.0E-60                          | BED044410.1           | EST_HUMAN               | RC4-BT0811-141198-01-1-h08 BT0811 Homo sapiens cDNA   |
| 8653             | 21345           |                | 3.48              | 1.0E-60                          | AA244041.1            | EST_HUMAN               | rc04612.1 NCI_CGAP_P1 Homo sapiens cDNA clone IMAGE:1007182 similar to contains L1.H1 L1 repetitive element;        |
| 8881             | 21573           | 34517          | 1.41              | 1.0E-60                          | AV754081.1            | EST_HUMAN               | AV754081 TP Homo sapiens cDNA clone TPGAED05 5'   |
| 1077             | 13895           | 28483          | 2.21              | 9.0E-61                          | AU118344              | EST_HUMAN               | AU118344 HEMBA1 Homo sapiens cDNA clone HEMBA1005583 5'   |
| 2876             | 15385           | 28126          | 1.18              | 8.0E-61                          | AW008478.1            | EST_HUMAN               | wf05b10.X1 NCI_CGAP_Co3 Homo sapiens cDNA clone IMAGE:2506555 5'  |
| 2876             | 15385           | 28127          | 1.18              | 8.0E-61                          | AW008478.1            | EST_HUMAN               | wf05b10.X1 NCI_CGAP_Co3 Homo sapiens cDNA clone IMAGE:2506555 5'  |
| 2851             | 15717           |                | 1.53              | 8.0E-61                          | X57147.1              | NT                      | Human endogenous retrovirus pHE-1 (ERV9)  |
| 7786             | 20491           | 33614          | 1.05              | 8.0E-61                          | AA583988.1            | EST_HUMAN               | mn59g06.31 NCI_CGAP_Lar1 Homo sapiens cDNA clone IMAGE:1088218 3'   |
| 124              | 12841           | 25683          | 1.97              | 7.0E-61                          | 7706870               | NT                      | Homo sapiens PXR2b protein (PXR2b), mRNA  |
| 124              | 12841           | 25684          | 1.97              | 7.0E-61                          | 7706870               | NT                      | Homo sapiens PXR2b protein (PXR2b), mRNA  |
| 125              | 12841           | 25683          | 2.98              | 7.0E-61                          | 7706870               | NT                      | Homo sapiens PXR2b protein (PXR2b), mRNA  |
| 125              | 12841           | 25684          | 2.98              | 7.0E-61                          | 7706870               | NT                      | Homo sapiens PXR2b protein (PXR2b), mRNA  |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|--|--------------------|
| 6034 12941       | 25583           | 1.04           | 7.0E-61           | 7706870                          | NT                    | Homo sapiens PXR26 protein (PXR26), mRNA   |                    |
| 6034 12941       | 25584           | 1.04           | 7.0E-61           | 7706870                          | NT                    | Homo sapiens PXR26 protein (PXR26), mRNA   |                    |
| 259 13067        | 25705           | 2.95           | 6.0E-61           | BE409310.1                       | EST_HUMAN             | 60130093BFT NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3885480 5'  |                    |
| 783 13565        | 26226           | 1.62           | 6.0E-61           | BE409310.1                       | EST_HUMAN             | 60130093BFT NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3885480 5'  |                    |
| 1288 14047       | 26719           | 15             | 6.0E-61           | AF119880.1                       | NT                    | Homo sapiens PRO2014 mRNA, complete cds  |                    |
| 1628 14372       | 27081           | 0.97           | 6.0E-61           | BE257400.1                       | EST_HUMAN             | 60110823BFT NIH_MGC_18 Homo sapiens cDNA clone IMAGE:3350145 5'  |                    |
| 1843 14389       | 27078           | 2.83           | 6.0E-61           | AA596033.1                       | EST_HUMAN             | mm65109_s1 NCI_OGAP_Lar1 Homo sapiens cDNA clone IMAGE:1088867 3'  |                    |
| 2123 14854       | 27683           | 1.58           | 6.0E-61           | AY008285.1                       | NT                    | Homo sapiens solute carrier (SLC25A18) mRNA, complete cds; nuclear gene for mitochondrial product  |                    |
| 3301 16083       | 28711           | 9.37           | 6.0E-61           | AU130689.1                       | EST_HUMAN             | AU130689 NT2RP3 Homo sapiens cDNA clone NT2RP3001263 5'  |                    |
| 5941 18723       | 31682           | 3.37           | 9.0E-61           | S79249.1                         | NT                    | Ig-beta/B29=CD36 (alternatively spliced) Human, B cells, mRNA Partial, 375 nt]   |                    |
| 7242 18927       | 33003           | 1.82           | 6.0E-61           | U24498.1                         | NT                    | Human autosomal dominant polycystic kidney/disease protein 1 (PKD1) gene   |                    |
| 7578 20189       | 33282           | 1.67           | 6.0E-61           | AF035737.1                       | NT                    | Homo sapiens general transcription factor 21 (GTF2) mRNA, complete cds   |                    |
| 11474 24075      | 37384           | 1.35           | 6.0E-61           | AF080398.1                       | NT                    | Homo sapiens napsin A mRNA, complete cds   |                    |
| 11474 24075      | 37385           | 1.35           | 6.0E-61           | AF090398.1                       | NT                    | Homo sapiens napsin A mRNA, complete cds   |                    |
| 12285 13565      | 26226           | 1.62           | 6.0E-61           | BE408310.1                       | EST_HUMAN             | 60130093BFT NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3885480 5'  |                    |
| 350 13149        | 25789           | 1.73           | 5.0E-61           | 4507500                          | NT                    | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TIA1) mRNA   |                    |
| 1874 14419       | 27112           | 2.22           | 5.0E-61           | 45060008                         | NT                    | Homo sapiens protein phosphatase 1, regulatory subunit 10 (PPP1R10) mRNA   |                    |
| 3032 15798       | 28444           | 2.68           | 5.0E-61           | AL163279.2                       | NT                    | Homo sapiens chromosome 21 segment HS21C070  |                    |
| 3183 15956       | 28608           | 3.27           | 6.0E-61           | 4502168                          | NT                    | Homo sapiens amyloid beta (A4) precursor protein (protease nexin-II, Alzheimer disease) (APP), mRNA  |                    |
| 3963 18712       |                 | 1.78           | 6.0E-61           | AJ228041.1                       | NT                    | Human 859 kb config between AML1 and CBR1 on chromosome 21q22; segment 1/3   |                    |
| 4941 13149       | 25789           | 1.07           | 5.0E-61           | 4507500                          | NT                    | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TIA1) mRNA   |                    |
| 5080 17789       | 30416           | 3.38           | 5.0E-61           | 4502288                          | NT                    | Homo sapiens ATPase, Ca++ transporting, plasma membrane 1 (ATP2B1) mRNA  |                    |
| 6725 18517       | 31438           | 0.87           | 4.0E-61           | 7681687                          | NT                    | Homo sapiens DKF27-5665023 protein (DKF27-5665023), mRNA   |                    |
| 120683 24582     |                 | 3.51           | 4.0E-61           | AV731140.1                       | EST_HUMAN             | AV731140 HTTF Homo sapiens cDNA clone HTTFAR801 5'   |                    |
| 8320 21013       | 34151           | 0.69           | 3.0E-61           | AF150190.1                       | EST_HUMAN             | AF150180 Human mRNA from cd34+ stem cells Homo sapiens cDNA clone CBDAAGB04  |                    |
| 8598 21283       | 34427           | 0.84           | 3.0E-61           | AA301233.1                       | EST_HUMAN             | EST14323 Testis tumor Homo sapiens cDNA 5' end   |                    |
| 8598 21283       | 34428           | 0.84           | 3.0E-61           | AA301233.1                       | EST_HUMAN             | EST14323 Testis tumor Homo sapiens cDNA 5' end   |                    |
| 498 13271        | 25906           | 1.52           | 2.0E-61           | 8922629                          | NT                    | Homo sapiens hypothetical protein FLJ11028 (FLJ11028), mRNA  |                    |
| 1190 13942       | 26807           | 0.92           | 2.0E-61           | BE168410.1                       | EST_HUMAN             | QV34HT0613-06040-147-d01 HT0513 Homo sapiens cDNA  |                    |
| 1190 13942       | 26808           | 0.82           | 2.0E-61           | BE168410.1                       | EST_HUMAN             | QV34HT0613-06040-147-d01 HT0513 Homo sapiens cDNA  |                    |
| 1660 14406       | 27097           | 1              | 2.0E-61           | NS3039.1                         | EST_HUMAN             | yw5d11_s1 Soares fetal liver spleen 1NFL9 Homo sapiens cDNA clone IMAGE:248453 3' similar to gb:125444 60S RIBOSOMAL PROTEIN L36A (HUMAN); |                    |

Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|---|--|
| 2647             | 163857          |                | 1.04              | 2.0E-61                              | N39397_1              | EST_HUMAN   | y403f11_r1 Soares melanocyte 2NbHM Homo sapiens cDNA clone IMAGE:270189 5' |
| 63332            | 19102           | 32090          | 0.98              | 2.0E-61                              | 11428166_NT           | Homo sapiens ATPase, H+ transporting, lysosomal (vacuolar proton pump) non-catalytic accessory protein 1A (110/118kD) (ATP6V1A), mRNA |  |
| 8013             | 21604           | 34748          | 0.98              | 2.0E-61                              | AV694317              | GK3C Homo sapiens cDNA clone GKCE1_G08 5'   |  |
| 9462             | 22012           |                | 0.98              | 2.0E-61                              | AB011108_1            | NT  |  |
| 82222            | 22473           | 35876          | 1.87              | 2.0E-61                              | AW500258_1            | EST_HUMAN   |  |
| 10150            | 22798           | 36014          | 2.3               | 2.0E-61                              | 11421778_NT           | Hom sapiens polymerase (RNA) II (DNA directed) (39kD) (RPC39), mRNA   |  |
| 10798            | 23482           |                | 1.81              | 2.0E-61                              | 11419728_NT           | Homo sapiens ribosomal protein L44 (RPL44), mRNA  |  |
| 758              | 13528           | 26188          | 1.11              | 1.0E-61                              | 5453829_NT            | Homo sapiens origin recognition complex, subunit 2 (yeast homolog)-like (ORC2L), mRNA   |  |
| 1851             | 14689           | 27304          | 3.71              | 1.0E-61                              | 60056983_NT           | Homo sapiens zona pellucida glycoprotein 3A (sperm receptor) (ZP3A), mRNA   |  |
| 2193             | 146222          | 27658          | 1.42              | 1.0E-61                              | AW827281_1            | EST_HUMAN   |  |
| 26339            | 156507          | 28257          | 1.47              | 1.0E-61                              | BE386383_1            | EST_HUMAN   |  |
| 32669            | 16128           | 28786          | 0.86              | 1.0E-61                              | 76822319_NT           | Homo sapiens KIAA0808 gene product (KIAA0808), mRNA   |  |
| 37115            | 18468           | 29106          | 1.2               | 1.0E-61                              | BE174485_1            | EST_HUMAN   |  |
| 4407             | 17144           | 29773          | 0.81              | 1.0E-61                              | 4759249_NT            | Homo sapiens TRAF family member-associated NFKB activator (TANK) mRNA   |  |
| 4407             | 17144           | 29774          | 0.81              | 1.0E-61                              | 4759249_NT            | Homo sapiens TRAF family member-associated NFKB activator (TANK) mRNA   |  |
| 4804             | 17535           | 30157          | 8.11              | 1.0E-61                              | AW288181_1            | EST_HUMAN   |  |
| 4804             | 17535           | 30158          | 8.11              | 1.0E-61                              | AW288181_1            | EST_HUMAN   |  |
| 4905             | 17632           | 30247          | 0.75              | 1.0E-61                              | AL16312102_NT         | Homo sapiens chromosome 21 segment HS21_C010  |  |
| 53019            | 18114           | 30772          | 1.62              | 1.0E-61                              | M78423_1              | NT  |  |
| 6003             | 18398           | 31310          | 0.79              | 1.0E-61                              | 76822303_NT           | Homo sapiens KIAA0783 gene product (KIAA0783), mRNA   |  |
| 6793             | 18594           | 31511          | 1.29              | 1.0E-61                              | 11416891_NT           | Homo sapiens survival of motor neuron 1, telomeric (SMN1), mRNA   |  |
| 6800             | 19461           | 32482          | 7.11              | 1.0E-61                              | M30135_1              | NT  |  |
| 6891             | 19584           | 32732          | 0.67              | 1.0E-61                              | 4759171_NT            | Human P40 T-cell and mast cell growth factor (hr40) gene, complete cds  |  |
| 7091             | 19780           | 32845          | 1.42              | 1.0E-61                              | 89223130_NT           | Homo sapiens SC35-interacting protein 1 (SRRP128), mRNA   |  |
| 7091             | 19780           | 32846          | 1.42              | 1.0E-61                              | 89223130_NT           | Homo sapiens hypothetical protein FLJ20128 (FLJ20128), mRNA   |  |
| 8333             | 20726           | 33801          | 3                 | 1.0E-61                              | 11034840_NT           | Homo sapiens growth hormone releasing hormone (GHRH), mRNA  |  |
| 8212             | 20909           | 34041          | 3.06              | 1.0E-61                              | AF224689_1            | NT  |  |
| 9182             | 211852          |                | 2.7               | 1.0E-61                              | AW9889728_1           | EST_HUMAN   |  |
| 8257             | 216363          | 36110          | 7.73              | 1.0E-61                              | 11416280_NT           | Hom sapiens cadherin 18 (CDH18), mRNA   |  |
| 88228            | 22576           | 35775          | 5.24              | 1.0E-61                              | 11428892_NT           | Homo sapiens KIAA0971 protein (KIAA0971), mRNA  |  |
| 10531            | 23228           | 38462          | 2.84              | 1.0E-61                              | 11425578_NT           | Homo sapiens actinin, alpha 4 (ACTN4), mRNA   |  |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|--|
| 10855            | 23535           | 36780          | 1.49              | 1.0E-61                          | AB044550.1            | NT                      | Homo sapiens PI/OKC110 mRNA for ubiquitin-conjugating enzyme E2, complete cds                    |
| 11008            | 23678           | 36835          | 1.53              | 1.0E-61                          | AB007830.1            | NT                      | Homo sapiens mRNA for CSR2, complete cds   |
| 12007            | 25273           | 30728          | 3.02              | 1.0E-61                          | 11430460              | NT                      | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA                              |
| 12007            | 25273           | 30727          | 3.02              | 1.0E-61                          | 11430460              | NT                      | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA                              |
| 12659            | 24959           | 30988          | 11.58             | 1.0E-61                          | 11418127              | NT                      | Homo sapiens GTP binding protein 1 (GTPBP1), mRNA  |
| 10255            | 22803           | 36113          | 1.45              | 9.0E-62                          | BE084388.1            | EST_HUMAN               | RC4-BT0310-110300-016-10 B10310 Homo sapiens cDNA clone IMAGE:1354725 3' similar to SW:POL_MLVRK |
| 4614             | 17249           | 28835          | 1.1               | 8.0E-62                          | AAB30420.1            | EST_HUMAN               | cc68h11.51 NCI CGAP_GCB1 Homo sapiens cDNA clone IMAGE:1354725 3' similar to SW:POL_MLVRK        |
| 1085             | 13843           | 28501          | 1.62              | 7.0E-62                          | AV714334              | EST_HUMAN               | AV714334 DCB Homo sapiens cDNA clone DCBAMA08 5'   |
| 3497             | 16253           | 28907          | 0.74              | 7.0E-62                          | P17480                | SWISSPROT               | NUCLEOLAR TRANSCRIPTION FACTOR 1 (UPSTREAM BINDING FACTOR 1) (UBF-1) (AUTOANTIGEN NOR-90)        |
| 68226            | 18815           | 31547          | 0.84              | 7.0E-62                          | 11427865              | NT                      | Homo sapiens hypothetical protein (FLJ20281), mRNA   |
| 11323            | 24014           | 37317          | 7.1               | 7.0E-62                          | AI208681.1            | EST_HUMAN               | cp56aa04-x1 Scarses_bestis_NHT Homo sapiens cDNA clone IMAGE:1839150 3' similar to TR:O15103     |
| 2898             | 15764           |                | 1.42              | 6.0E-62                          | U09410.1              | NT                      | O15103 HYPOTHETICAL 27.3 KD PROTEIN;   |
| 3378             | 16138           |                | 4.1               | 6.0E-62                          | 11418255              | NT                      | Human zinc finger protein ZNF131 mRNA, partial cds   |
| 7525             | 20198           | 33289          | 3.03              | 6.0E-62                          | AI762801.1            | EST_HUMAN               | W04q02.x1 NCI CGAP_CLI1 Homo sapiens cDNA clone IMAGE:2388251 3'                                 |
| 7525             | 20198           | 33290          | 3.03              | 6.0E-62                          | AI762801.1            | EST_HUMAN               | W04q02.x1 NCI CGAP_CLI1 Homo sapiens cDNA clone IMAGE:2388251 3'                                 |
| 7984             | 20879           |                | 0.72              | 6.0E-62                          | AW501124.1            | EST_HUMAN               | UHF-BP0p-efl-d-09-0-U11 NIH_MGC_51 Homo sapiens cDNA clone IMAGE:3072833 5'                      |
| 6155             | 20849           | 33981          | 1.45              | 6.0E-62                          | 11421139              | NT                      | Homo sapiens CGI-18 protein (LOC51008), mRNA   |
| 62554            | 21933           | 35103          | 3.27              | 6.0E-62                          | AW814383.1            | EST_HUMAN               | MR3-ST0203-130100-025-5d9 ST0203 Homo sapiens cDNA clone IMAGE:2547204 3' similar to SW:NRDC_RAT |
| 407              | 13192           | 25840          | 2.8               | 5.0E-62                          | AIB50528.1            | EST_HUMAN               | W051607.x1 NCI CGAP_Luz8 Homo sapiens cDNA clone IMAGE:2547204 3' similar to SW:NRDC_RAT         |
| 2406             | 16127           | 27863          | 4.25              | 5.0E-62                          | AJ271735.1            | NT                      | Q08379 GOLGIN-95; contains element MER22 repetitive element;                                     |
| 2406             | 15127           | 27864          | 4.25              | 5.0E-62                          | AJ271735.1            | NT                      | Homo sapiens Xq pseudautosomal region; segment 1/2   |
| 2598             | 16312           | 28048          | 1.35              | 5.0E-62                          | U39487.1              | NT                      | Human xanthine dehydrogenase/oxidase mRNA, complete cds  |
| 2598             | 16312           | 28049          | 1.35              | 5.0E-62                          | U39487.1              | NT                      | Human xanthine dehydrogenase/oxidase mRNA, complete cds  |
| 3413             | 16171           | 28820          | 2.92              | 5.0E-62                          | 4506758               | NT                      | Homo sapiens xenodine receptor 3 (RYR2) mRNA   |
| 4283             | 17032           | 29680          | 2.6               | 5.0E-62                          | AA431063.1            | EST_HUMAN               | ZW78ed0.8.1 Scarses_testis_NHT Homo sapiens cDNA clone IMAGE:782244 3' similar to SW:NRDC_RAT    |
| 8447             | 21139           | 34273          | 0.56              | 5.0E-62                          | 4506758               | NT                      | P47245 NARDILYSIN;   |
| 8417             | 22095           | 35267          | 6.46              | 5.0E-62                          | AW410687.1            | EST_HUMAN               | Human scardine receptor 3 (RYR3) mRNA  |
| 11231            | 23894           | 37180          | 2.85              | 5.0E-62                          | 11426574              | NT                      | NIH_MGC_17 Homo sapiens cDNA clone IMAGE:2861616 5'  |
| 11231            | 23894           | 37181          | 2.85              | 5.0E-62                          | 11426574              | NT                      | Homo sapiens muscle specific gene (M8), mRNA   |
|                  |                 |                |                   |                                  |                       |                         | Homo sapiens muscle specific gene (M8), mRNA   |

Table 4  
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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 820              | 13591           | 262538         | 1.86              | 4.0E-62                              | AW161478.1            | EST_HUMAN               | au71d03.y1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2781701 5' similar to gb:m37104                     |
| 820              | 13591           | 262539         | 1.86              | 4.0E-62                              | AW161478.1            | EST_HUMAN               | au71d03.y1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2781701 5' similar to gb:m37104                     |
| 821              | 13591           | 262538         | 2.86              | 4.0E-62                              | AW161478.1            | EST_HUMAN               | au71d03.y1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2781701 5' similar to gb:m37104                     |
| 821              | 13591           | 262539         | 2.86              | 4.0E-62                              | AW161478.1            | EST_HUMAN               | au71d03.y1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2781701 5' similar to gb:m37104                     |
| 2459             | 15177           | 27918          | 1.78              | 4.0E-62                              | AJ827900.1            | EST_HUMAN               | wf12b08.x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2350359 3' similar to gb:X57138_mat1 HISTONE H2B 2 (HUMAN); |
| 2459             | 15177           | 27917          | 1.78              | 4.0E-62                              | AJ827900.1            | EST_HUMAN               | wf12b08.x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2350359 3' similar to gb:X57138_mat1 HISTONE H2B 2 (HUMAN); |
| 3394             | 16153           |                | 6.34              | 4.0E-62                              |                       |                         | Homo sapiens keratin 18 (KRT18) mRNA   |
| 58333            | 186222          | 31555          | 1.84              | 4.0E-62                              |                       |                         | Homo sapiens solute carrier family 13 (sodium-dependent dicarboxylate transporter), member 2 (SLC13A2) mRNA              |
| 6204             | 18979           | 31958          | 1.9               | 4.0E-62                              |                       |                         | Homo sapiens ubiquitin specific protease 9, X chromosome (Drosophila fat facets related) (USP9X), mRNA                   |
| 7071             | 19162           | 32828          | 1.84              | 4.0E-62                              |                       |                         | Homo sapiens phosphotidylyl pyrophosphate synthetase 2 (PPRP52), mRNA  |
| 7534             | 20204           | 33289          | 2.48              | 4.0E-62                              |                       |                         | Homo sapiens eukaryotic translation initiation factor 2B, subunit 2 (beta, 39kD) (EIF2B2), mRNA                          |
| 7534             | 20204           | 33300          | 2.48              | 4.0E-62                              |                       |                         | Homo sapiens eukaryotic translation initiation factor 2B, subunit 2 (beta, 39kD) (EIF2B2), mRNA                          |
| 8071             | 20765           | 33894          | 1.06              | 4.0E-62                              |                       |                         | Homo sapiens 26S proteasome-associated protein (POH1), mRNA  |
| 8745             | 21437           | 34584          | 4.97              | 4.0E-62                              | AB033089.1            | NT                      | Homo sapiens mRNA for KIAA1263 protein, partial cds  |
| 10934            | 23614           | 36864          | 4.45              | 4.0E-62                              | Z78788.1              | NT                      | H.sapiens flow-sorted chromosome 6 HindIII fragment, SC8pA16D3   |
| 10934            | 23614           | 36865          | 4.45              | 4.0E-62                              | Z78788.1              | NT                      | H.sapiens flow-sorted chromosome 6 HindIII fragment, SC8pA16D3   |
| 11985            | 24533           | 37270          | 2.81              | 4.0E-62                              |                       |                         | Homo sapiens putative nuclear protein (HR1HFB2122), mRNA   |
| 12580            | 24847           | 30984          | 1.34              | 4.0E-62                              |                       |                         | Homo sapiens cadherin EGF LAG seven-pass G-type receptor 1 (CELSR1), mRNA  |
| 12645            | 24842           | 30981          | 16.72             | 4.0E-62                              |                       |                         | Homo sapiens calcineurin binding protein 1 (KIAA0330), mRNA  |
| 12645            | 24842           | 30982          | 16.72             | 4.0E-62                              |                       |                         | Homo sapiens calcineurin binding protein 1 (KIAA0330), mRNA  |
| 12682            | 24976           | 30983          | 2.72              | 4.0E-62                              |                       |                         | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA  |
| 72               | 12689           | 25535          | 0.89              | 3.0E-62                              |                       |                         | Homo sapiens neurofibromin 2 (bilateral acoustic neuroma) (NF2), mRNA  |
| 3041             | 15807           | 28452          | 1.11              | 3.0E-62                              | AB040909.1            | NT                      | Homo sapiens mRNA for KIAA1478 protein, partial cds  |
| 3041             | 15807           | 28453          | 1.11              | 3.0E-62                              | AB040909.1            | NT                      | Homo sapiens mRNA for KIAA1478 protein, partial cds  |
| 3086             | 16439           | 28081          | 6.41              | 3.0E-62                              | X52858.1              | NT                      | Human cyclophilin-related processed pseudogene   |

Table 4

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|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|---|
| 8438 21130       | 34267           |                | 5.82              | 3.0E-62                              | AI632733.1            | EST_HUMAN  | wg35f04.x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:22399903 3' similar to contains THR.2   |
| 12029 13980      | 28627           |                | 2.36              | 2.0E-62                              | AL163284.2            | NT   | Homo sapiens chromosome 21 segment HS21C084   |
| 8673 21365       | 34511           |                | 4.89              | 2.0E-62                              | BF329911.1            | EST_HUMAN  | RC0-BN0284-300500-031-s05 BN0284 Homo sapiens cDNA  |
| 8673 21365       | 34512           |                | 4.89              | 2.0E-62                              | BF329911.1            | EST_HUMAN  | RC0-BN0284-300500-031-s05 BN0284 Homo sapiens cDNA, and ubiquitin-conjugating enzyme E2D 3  |
| 10072 22720      |                 |                | 3.8               | 2.0E-62                              | AF224669.1            | NT   | Homo sapiens mammosidease, beta A, lysosomal (MANBA) gene, and ubiquitin-conjugating enzyme E2D 3 (UBE2D3) genes, complete cds  |
| 11689 24284      |                 |                | 4.81              | 2.0E-62                              | BF300678.1            | EST_HUMAN  | QV4-BT0257-081199-017-s03 BT0257 Homo sapiens cDNA  |
| 1021 13781       | 28443           |                | 1.87              | 1.0E-62                              | AF248540.1            | NT   | Homo sapiens intersectin 2 (SH3D1B) mRNA, complete cds  |
| 15336 14283      | 28970           |                | 11.01             | 1.0E-62                              | L78810.1              | NT   | Homo sapiens ADP/ATP carrier protein (ANT-2) gene, complete cds   |
| 1781 14531       | 27239           |                | 1.04              | 1.0E-62                              | AA628207.1            | EST_HUMAN  | ef70e11.r1 Soares_NhMPu_S1 Homo sapiens cDNA clone IMAGE:1047404 5' similar to WP:K01H12.1 CE03453;   |
| 28116 156811     | 28323           |                | 0.99              | 1.0E-62                              | AL039044.1            | EST_HUMAN  | DKFZp566F104_11 566 (synonym: Ifkd2) Homo sapiens cDNA clone DKFZp566F104_5'  |
| 43117 17056      |                 | 0.71           | 1.0E-62           | BE188413.1                           | EST_HUMAN             | QV0-HT0489-280200-138-h12 HT0483 Homo sapiens cDNA |   |
| 4490 17228       | 289855          |                | 1.57              | 1.0E-62                              | 8923201               | NT   | Homo sapiens hypothetical protein FLJ20212 (FLJ20212), mRNA   |
| 5071 17790       | 30405           |                | 0.9               | 1.0E-62                              | L23503.1              | NT   | Human glucagon-like peptide-1 receptor (GLP-1) mRNA, complete cds   |
| 6196 18972       | 31948           |                | 0.88              | 1.0E-62                              | U52111.2              | NT   | Homo sapiens X28 region near ALD locus containing dual specificity phosphatase 9 (DUSP9), ribosomal protein L18a (RPL18a), Ca2+/Calmodulin-dependent protein kinase I (CAMK1), creatine transporter (CRTTR), CDM protein (CDM), adrenoleukodystrophy protein > a05cd2.51 Stratagene fetal retina S37202 Homo sapiens cDNA clone IMAGE:839906 3' |
| 7034 19726       | 32782           |                | 0.91              | 1.0E-62                              | AA490060.1            | EST_HUMAN  | a05cd2.51 Stratagene fetal retina S37202 Homo sapiens cDNA clone IMAGE:839906 3'  |
| 7045 19736       | 32798           |                | 2.94              | 1.0E-62                              | AA722878.1            | EST_HUMAN  | z88910.s1 Soares_fetal_heart_NbHt-HSW Homo sapiens cDNA clone IMAGE:409771 3'   |
| 7045 19736       | 32797           |                | 2.94              | 1.0E-62                              | AA722878.1            | EST_HUMAN  | z88910.s1 Soares_fetal_heart_NbHt-HSW Homo sapiens cDNA clone IMAGE:409771 3'   |
| 8855 21347       | 34491           |                | 0.5               | 1.0E-62                              | AA280050.1            | EST_HUMAN  | z83d08.71 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:705060 5'   |
| 8856 21647       | 34797           |                | 2.13              | 1.0E-62                              | 7882289               | NT   | Homo sapiens KIAA0763 gene product (KIAA0763), mRNA   |
| 8858 21647       | 34798           |                | 2.13              | 1.0E-62                              | 7882289               | NT   | Homo sapiens KIAA0763 gene product (KIAA0763), mRNA   |
| 8899 21689       | 34838           |                | 2.02              | 1.0E-62                              | X15533.1              | NT   | H_sapiens lysosomal acid phosphatase gene (EC 3.1.3.2) Exon 9   |
| 8989 21689       | 34839           |                | 2.02              | 1.0E-62                              | X16533.1              | NT   | H_sapiens lysosomal acid phosphatase gene (EC 3.1.3.2) Exon 9   |
| 9457 22017       | 35177           |                | 3.54              | 1.0E-62                              | AA465170.1            | EST_HUMAN  | z83d08.31 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:815055 3'   |
| 111339 24029     | 37333           |                | 2.01              | 1.0E-62                              | Z78898.1              | NT   | H_sapiens flow-sorted chromosome 6 HindIII fragment SC3pA14D8   |
| 111866 24450     | 37782           |                | 1.52              | 1.0E-62                              | 11424055              | NT   | Homo sapiens exosome component Rrp48 (LOC35915), mRNA   |
| 12474 24838      |                 |                | 2.25              | 1.0E-62                              | 11418322              | NT   | Homo sapiens cadherin EGF LAG seven-pass G-type receptor 1 (CELSR1), mRNA   |
| 12673 24866      | 30890           |                | 2.89              | 1.0E-62                              | 11430460              | NT   | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA   |
| 3259 13130       | 25765           |                | 2.59              | 9.0E-63                              | AW816406.1            | EST_HUMAN  | QV4-S10224-181168-037-405 S10234 Homo sapiens cDNA  |
| 2345 15068       |                 |                | 1.53              | 9.0E-63                              | C18159.1              | EST_HUMAN  | C18159 Human placenta cDNA (T Fujimura) Homo sapiens cDNA clone GEN-5589C10 5'  |

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Table 4  
Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 4020             | 167688          | 28395          | 7.42              | 9.0E-63                              | AB002348.2            | NT                      | Human sapiens mRNA for KIAA0350 protein, partial cds   |
| 4020             | 167688          | 28396          | 7.42              | 9.0E-63                              | AB002348.2            | NT                      | Human sapiens mRNA for KIAA0350 protein, partial cds   |
| 5164             | 17835           | 37798          | 3.05              | 9.0E-63                              | '11418185             | NT                      | Human sapiens acotinase 2, mitochondrial (ACO2), mRNA  |
| 5378             | 18179           | 38859          | 1.83              | 9.0E-63                              | Y15056.1              | NT                      | Human sapiens mRNA for PIB kinase  |
| 7082             | 19772           | 32837          | 3.86              | 9.0E-63                              | 11426395              | NT                      | Human sapiens nucleophoth 88kD (NUFP88), mRNA  |
| 7724             | 20367           | 33501          | 0.91              | 9.0E-63                              | 4885544               | NT                      | Human sapiens pyruvate dehydrogenase kinase, isoenzyme 3 (PDHK3), mRNA   |
| 82224            | 20918           | 34055          | 1.38              | 9.0E-63                              | 11421160              | NT                      | Human sapiens Ras association (RalGDS)/AF-9 domain family 2 (RASSE2), mRNA                                       |
| 10816            | 23498           | 36736          | 2.03              | 9.0E-63                              | 7682289               | NT                      | Human sapiens KIAA0763 gene product (KIAA0763), mRNA   |
| 10816            | 23498           | 36737          | 2.03              | 9.0E-63                              | 7682289               | NT                      | Human sapiens KIAA0763 gene product (KIAA0763), mRNA   |
| 2343             | 15068           | 27803          | 1.32              | 8.0E-63                              | 4557734               | NT                      | Human sapiens monamine oxidase A (MAOA), nuclear gene encoding mitochondrial protein, mRNA                       |
| 2373             | 15068           | 27834          | 2.06              | 8.0E-63                              | 6031810               | NT                      | Human sapiens IL2-inducible T-cell kinase (ITK), mRNA  |
| 3454             | 16210           | 28851          | 3.02              | 8.0E-63                              | AF188349.1            | NT                      | Gallus gallus Dach2 protein (Dach2), mRNA, complete cds  |
| 3454             | 16210           | 28862          | 3.02              | 8.0E-63                              | AF188349.1            | NT                      | Gallus gallus Dach2 protein (Dach2), mRNA, complete cds  |
| 42324            | 16976           | 29800          | 3.31              | 8.0E-63                              | AL163238.2            | NT                      | Human sapiens chromosome 21 segment HS21C68  |
| 908              | 13875           |                | 2.09              | 7.0E-63                              | AI872137.1            | EST HUMAN               | mm5g11.X1 NCI_CGAP_U251 Homo sapiens cDNA clone IMAGE:24398083'  |
| 5255             | 18081           |                | 48.05             | 6.0E-63                              | AA420803.1            | EST HUMAN               | nc063102.1 NCI_CGAP_P11 Homo sapiens cDNA clone IMAGE:745947 similar to gbk:Y00361 60S RIBOSOMAL PROTEIN (HUMAN) |
| 8773             | 21465           | 34612          | 1.97              | 5.0E-63                              | 11628464              | NT                      | Human sapiens G protein-coupled receptor 51 (GPR51), mRNA  |
| 3315             | 16073           | 28726          | 0.84              | 4.0E-63                              | AL1632278.2           | NT                      | Human sapiens chromosome 21 segment HS21C078   |
| 3788             | 16540           | 29174          | 1.16              | 4.0E-63                              | AB014607.1            | NT                      | Human sapiens mRNA for KIAA0707 protein, partial cds   |
| 3788             | 16540           | 29175          | 1.16              | 4.0E-63                              | AB014607.1            | NT                      | Human sapiens mRNA for KIAA0707 protein, partial cds   |
| 6353             | 19123           | 32118          | 3.64              | 4.0E-63                              | AW750372.1            | EST HUMAN               | CMS-BT0595-190100-072-639 BT0595 Homo sapiens cDNA   |
| 6353             | 19123           | 32118          | 3.64              | 4.0E-63                              | AW750372.1            | EST HUMAN               | CMS-BT0595-190100-072-639 BT0595 Homo sapiens cDNA   |
| 11077            | 23747           | 37021          | 2.3               | 4.0E-63                              | AW134708.1            | EST HUMAN               | UH-BI1- <del>abq-a-02-0-U1.s1</del> NCI_CGAP_Suk3 Homo sapiens cDNA clone IMAGE:2712482 3'                       |
| 11077            | 23747           | 37022          | 2.3               | 4.0E-63                              | AW134708.1            | EST HUMAN               | UH-BI1- <del>abq-a-02-0-U1.s1</del> NCI_CGAP_Suk3 Homo sapiens cDNA clone IMAGE:2712482 3'                       |
| 11846            | 24430           | 37771          | 4.32              | 4.0E-63                              | AA362834.1            | EST HUMAN               | EST172007 Ovary II Homo sapiens cDNA 5' end similar to zinc finger protein family                                |
| 1928             | 14684           | 27377          | 2.82              | 3.0E-63                              | AB018260.1            | NT                      | Human sapiens mRNA for KIAA0777 protein, partial cds   |
| 2782             | 15487           | 28225          | 2.26              | 3.0E-63                              | J00310.1              | NT                      | Human Met-TRNA gene 1  |
| 2824             | 13987           | 28836          | 11.81             | 3.0E-63                              | 6005963               | NT                      | Human sapiens zinc finger protein 144 (Me18) (ZNF144), mRNA  |
| 6382             | 19151           | 32150          | 32.78             | 3.0E-63                              | 11545810              | NT                      | Human sapiens hepatocellular carcinoma antigen gene 520 (LOC633928), mRNA  |
| 9805             | 22258           | 35444          | 1.15              | 3.0E-63                              | BE876158.1            | EST HUMAN               | 60148566F1 NIH_MGC_69 Homo sapiens cDNA clone IMAGE:3888253 5'   |
| 9805             | 22258           | 35445          | 1.15              | 3.0E-63                              | BE876158.1            | EST HUMAN               | 60148566F1 NIH_MGC_69 Homo sapiens cDNA clone IMAGE:3888253 5'   |
| 186              | 12989           | 25639          | 1.09              | 2.0E-63                              | U07804.1              | NT                      | Human DNA topoisomerase I mRNA, partial cds  |

Table 4  
Single Exon Probes Expressed in Brain

| Probe Seq ID No: | Exon Seq ID No: | ORF Seq ID No: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 183              | 13006           | 25847          | 1.68              | 2.0E-63                              | 4885226               | NT                      | Homo sapiens eyes absent ( <i>Drosophila</i> ) homolog 2 (EYA2), mRNA  |
| 485              | 13270           |                | 2.34              | 2.0E-63                              | 4557624               | NT                      | Homo sapiens glutamate-cysteine ligase (gamma-glutamylcysteine synthetase), catalytic (72 kD) (GCLC)   |
| 807              | 13878           | 28244          | 5.57              | 2.0E-63                              | 7887042               | NT                      | Homo sapiens Down syndrome candidate region 1 (DSCR1), mRNA  |
| 1659             | 14306           | 28984          | 1.43              | 2.0E-63                              | AB030388.1            | NT                      | Homo sapiens RHCE mRNA for Rh blood CE group antigen polypeptide, complete cds   |
| 1559             | 14306           | 28985          | 1.43              | 2.0E-63                              | AB030388.1            | NT                      | Homo sapiens RHCE mRNA for Rh blood CE group antigen polypeptide, complete cds   |
| - 1760           | 14502           | 27203          | 1.1               | 2.0E-63                              | BE410739.1            | EST_HUMAN               | 60130162771 NIH_MGC_21 Homo sapiens cDNA clone IMAGE-36336103 6'   |
| 3154             | 15917           | 28583          | 3.44              | 2.0E-63                              | 4502166               | NT                      | Homo sapiens amyloid beta (A4) precursor protein (protease nexin-II, Alzheimer disease) (APP), mRNA  |
| 3278             | 16040           | 28690          | 2.02              | 2.0E-63                              | AF100718.1            | NT                      | Homo sapiens chromosome 3 subtelomeric region  |
| 3885             | 16835           | 28274          | 3.74              | 2.0E-63                              | L39891.1              | NT                      | Homo sapiens polycystic kidney disease-associated protein (PKD1) gene, complete cds  |
| 4813             | 17544           | 30168          | 1                 | 2.0E-63                              | AF111167.2            | NT                      | Homo sapiens jun dimerization protein gene, partial cds; cfos gene, complete cds; and unknown gene   |
| 5099             | 17818           | 30435          | 0.96              | 2.0E-63                              | 69-12617              | NT                      | Homo sapiens glutaminyl-peptide cyclotransferase (glutamininylycyclase) (QPCT), mRNA   |
| 5181             | 25062           | 30505          | 1.25              | 2.0E-63                              | 11419429              | NT                      | Homo sapiens similar to ectonucleotide pyrophosphatases/phosphodiesterase 3 (H. sapiens) (LOC083214), mRNA   |
| 6794             | 18585           | 31512          | 2.96              | 2.0E-63                              | BF373541.1            | EST_HUMAN               | QV1-F70170-040700-265-005 F70170 Homo sapiens cDNA   |
| 5794             | 18585           | 31613          | 2.96              | 2.0E-63                              | BF373541.1            | EST_HUMAN               | QV1-F70170-040700-265-005 F70170 Homo sapiens cDNA   |
| 6093             | 18871           | 31837          | 0.84              | 2.0E-63                              | 11421940              | NT                      | Homo sapiens protein kinase, cAMP-dependent, regulatory, type II, beta (PRKAR2B), mRNA   |
| 6093             | 18871           | 31838          | 0.84              | 2.0E-63                              | 11421940              | NT                      | Homo sapiens protein kinase, cAMP-dependent, regulatory, type II, beta (PRKAR2B), mRNA   |
|                  |                 |                |                   |                                      |                       |                         | Human germline T-cell receptor beta chain Dopamine-beta-hydroxylase-like, TRY1, TRY2, TRY3, TCRBV27S1P, TCRBV22S1A2N1T, TCRBV6S1A1T, TCRBV5S1A1T, TCRBV13SS, TCRBV6S7P, TCRBV7S3A2T, TCRBV13S2A1T, TCRBV9S2A2PT, TCRBV7S2A1N4T, TCRBV13S9/13S> |
| 6802             | 19385           | 32379          | 1.67              | 2.0E-63                              | U68058.1              | NT                      | Homo sapiens M1ST mRNA, partial cds  |
| 6849             | 19411           | 32425          | 0.88              | 2.0E-63                              | AB032269.1            | NT                      | Homo sapiens M1ST mRNA, partial cds  |
| 6849             | 19411           | 32426          | 0.88              | 2.0E-63                              | AB032269.1            | NT                      | Homo sapiens Carboxy anhydride-related protein 10 (LOC568834), mRNA  |
| 6975             | 19456           | 32477          | 1.45              | 2.0E-63                              | 89-10365              | NT                      | Homo sapiens Carboxy anhydride-related protein 10 (LOC568834), mRNA  |
| 6975             | 19456           | 32478          | 1.45              | 2.0E-63                              | 99-10365              | NT                      | Homo sapiens mRNA for KIAA1624 protein, partial cds  |
| 7878             | 20342           | 33454          | 0.87              | 2.0E-63                              | AB046844.1            | NT                      | Homo sapiens similar to sema domain, immunoglobulin domain (Ig), short basic domain, secreted, (semaphorin) 3A (H. sapiens) (LOC083232), mRNA  |
| 7713             | 20377           | 33490          | 0.58              | 2.0E-63                              | 11421514              | NT                      | Homo sapiens chromosome 21 segment HES21 C010  |
| 8431             | 21124           | 34282          | 3.96              | 2.0E-63                              | AL168210.2            | NT                      | Homo sapiens kinins family member 3B (KIF3B), mRNA   |
| 8952             | 21643           | 34791          | 1.35              | 2.0E-63                              | 11420849              | NT                      | Homo sapiens kinins family member 3B (KIF3B), mRNA   |
| 8952             | 21643           | 34782          | 1.35              | 2.0E-63                              | 11420949              | NT                      | Homo sapiens kinins family member 3B (KIF3B), mRNA   |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal Value | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------------|--------------------------------------|-----------------------|-------------------------|--|
| 9839             | 22490           | 35691          | 1.12                    | 2.0E-63                              | AL163218.2            | NT                      | Homo sapiens chromosome 21 segment HS21C18   |
|                  |                 |                |                         |                                      |                       |                         | zb18b05.s1 Scores_fetal_lung_NbL19W Homo sapiens cDNA clone IMAGE:302385 3' similar to gb:X17206 40S RIBOSOMAL PROTEIN S4 (HUMAN); |
| 10647            | 233338          | 38577          | 6.43                    | 2.0E-63                              | N78945.1              | EST_HUMAN               | Homo sapiens neureolin III-alpha gene, partial cds   |
| 10672            | 23363           | 36604          | 2.98                    | 2.0E-63                              | AF089810.1            | NT                      | Homo sapiens neureolin III-alpha gene, partial cds   |
| 10672            | 23363           | 38605          | 2.86                    | 2.0E-63                              | AF089810.1            | NT                      | Homo sapiens acetylase 2, mitochondrial (ACO2), mRNA   |
| 12098            | 25177           | 30807          | 6.97                    | 2.0E-63                              | 11418185.1            | EST_HUMAN               | HSC2VD111 normalized Infant brain cDNA Homo sapiens cDNA clone c-2d11  |
| 1502             | 14248           | 26934          | 1.28                    | 1.0E-63                              | F08485.1              | EST_HUMAN               | HSC2VD111 normalized Infant brain cDNA Homo sapiens cDNA clone c-2d11  |
| 1502             | 14248           | 26935          | 1.28                    | 1.0E-63                              | F08485.1              | EST_HUMAN               | HSC2VD111 normalized Infant brain cDNA Homo sapiens cDNA clone c-2d11  |
| 4308             | 17047           | 28672          | 2.82                    | 1.0E-63                              | F08485.1              | EST_HUMAN               | HSC2VD111 normalized Infant brain cDNA Homo sapiens cDNA clone c-2d11  |
| 4308             | 17047           | 28673          | 2.92                    | 1.0E-63                              | F08485.1              | EST_HUMAN               | HSC2VD111 normalized Infant brain cDNA Homo sapiens cDNA clone c-2d11  |
| 5268             | 18074           | 30703          | 0.8                     | 1.0E-63                              | AJ271736.1            | NT                      | Homo sapiens Xq pseudautosomal region; segment 2/2   |
| 5683             | 18476           | 31394          | 1.4                     | 1.0E-63                              | AW_582286.1           | EST_HUMAN               | Q06-ST0215-060100-083-bc9 S10215 Homo sapiens cDNA   |
| 6298             | 19071           | 32055          | 0.68                    | 1.0E-63                              | AW_451650.1           | EST_HUMAN               | UH-B13-#H-02-0-JL.51 NCI_CGAP_Sub5 Homo sapiens cDNA clone IMAGE:3068758 3'  |
| 6298             | 19071           | 32056          | 0.68                    | 1.0E-63                              | AW_451650.1           | EST_HUMAN               | UH-B13-#H-02-0-JL.51 NCI_CGAP_Sub5 Homo sapiens cDNA clone IMAGE:3068758 3'  |
| 8371             | 21064           |                |                         |                                      |                       |                         | Homo sapiens chromosome 21 segment HS21C047  |
| 12737            | 25286           |                |                         |                                      |                       |                         | Homo sapiens chromosome 21 segment HS21C007  |
| 7768             | 20482           | 33586          | 4.36                    | 9.0E-64                              | AK178188.1            | EST_HUMAN               | tm50907.x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:2161526 3'   |
| 1024             | 13784           |                |                         |                                      |                       |                         | 6.16 8.0E-64 BE280798.1 EST_HUMAN 601195232F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3138038 5'                                  |
| 6049             | 18829           | 31792          | 3.88                    | 8.0E-64                              | BE885765.1            | EST_HUMAN               | 601508968F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:3910338 5'  |
| 11916            | 24479           |                |                         |                                      |                       |                         | Homo sapiens Ran GTPase activating protein 1 (RAN GAP 1), mRNA   |
| 11970            | 24516           |                |                         |                                      |                       |                         | yc63b02.r1 Stratagene lung (#837210) Homo sapiens cDNA clone IMAGE:78179 5'  |
| 3520             | 16276           |                |                         |                                      |                       |                         | 60131145F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3633204 5'   |
| 46833            | 17417           | 30052          | 2.73                    | 7.0E-64                              | 4507490               | NT                      | Homo sapiens thimet oligopeptidase 1 (THOP1) mRNA  |
| 46833            | 17417           | 30053          | 2.73                    | 7.0E-64                              | 4507490               | NT                      | Homo sapiens thimet oligopeptidase 1 (THOP1) mRNA  |
| 9033             | 22581           | 35779          | 3.43                    | 7.0E-64                              | Y07848.1              | NT                      | Homo sapiens EWS, Bar22, mp22 and bam22 genes  |
| 1716             | 14459           | 27158          | 1.63                    | 6.0E-64                              | AI851892.1            | EST_HUMAN               | wh51607.x1 NCI_CGAP_GCB Homo sapiens cDNA clone IMAGE:2309220 3' similar to gbmM15162 BET-   |
| 1716             | 14459           | 27157          | 1.63                    | 6.0E-64                              | AI851892.1            | EST_HUMAN               | GLUCURONIDASE PRECURSOR (HUMAN);   |
| 3120             | 15385           | 28524          | 4.39                    | 6.0E-64                              | AW028445.1            | EST_HUMAN               | w13a03.x1 NCI_CGAP_Bm23 Homo sapiens cDNA clone IMAGE:2823446 3'   |
| 3120             | 15385           | 28525          | 4.39                    | 6.0E-64                              | AW028445.1            | EST_HUMAN               | w13a03.x1 NCI_CGAP_Bm23 Homo sapiens cDNA clone IMAGE:2823446 3'   |
| 5634             | 18332           | 31237          | 2.46                    | 6.0E-64                              | Y18933.1              | NT                      | Homo sapiens MCP-1 gene and enhancer region  |
| 5634             | 18332           | 31238          | 2.46                    | 6.0E-64                              | Y18933.1              | NT                      | Homo sapiens MCP-1 gene and enhancer region  |
| 6655             | 18362           | 31261          | 4.08                    | 6.0E-64                              | M13875.1              | NT                      | Homo sapiens protein kinase C beta-II type (PRKCB1) mRNA, complete cds   |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Description  |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|--|
| 5584             | 18361           | 31268          | 1.28              | 6.0E-84                          | 6912461               | NT                      | Homo sapiens atrophin-1 interacting protein 1; actinin receptor interacting protein 1 (KIAA0705), mRNA |
| 5739             | 18531           | 31453          | 0.62              | 6.0E-84                          | 11422189              | NT                      | Homo sapiens calcitonin receptor (CALCR), mRNA   |
| 5739             | 18531           | 31454          | 0.62              | 6.0E-84                          | 11422189              | NT                      | Homo sapiens calcitonin receptor (CALCR), mRNA   |
| 7136             | 18823           | 32888          | 2.34              | 6.0E-84                          | 11525870              | NT                      | Homo sapiens mesenchyme homeo box 1 (MEOX1), mRNA  |
| 7136             | 18823           | 32890          | 2.34              | 6.0E-84                          | 11525870              | NT                      | Homo sapiens mesenchyme homeo box 1 (MEOX1), mRNA  |
| 92228            | 21905           | 35077          | 6.78              | 6.0E-84                          | 11420555              | NT                      | Homo sapiens acetyl-CoA synthetase (LOC55802), mRNA  |
| 9403             | 22068           | 36240          | 2.09              | 6.0E-84                          | AF274763.1            | NT                      | Homo sapiens progressive atrophy-like protein (ANKO), mRNA, complete cds                               |
| 9618             | 22271           | 35453          | 2.78              | 6.0E-84                          | S78475.1              | NT                      | tkC [human, brain, mRNA, 2716 nt]  |
| 10669            | 23360           | 36600          | 6.01              | 6.0E-84                          | 11420197              | NT                      | Homo sapiens stromal antigen 3 (STAG3), mRNA   |
| 10669            | 23360           | 36601          | 6.01              | 6.0E-84                          | 11420197              | NT                      | Homo sapiens stromal antigen 3 (STAG3), mRNA   |
| 10941            | 15985           | 28524          | 1.94              | 6.0E-84                          | AW028445.1            | EST_HUMAN               | wr13e3_x1 NCI CGAP_Bm23 Homo sapiens cDNA clone IMAGE-2529436 3'                                       |
| 10941            | 15985           | 28525          | 1.84              | 6.0E-84                          | AW028445.1            | EST_HUMAN               | wr13e3_x1 NCI CGAP_Bm23 Homo sapiens cDNA clone IMAGE-2529436 3'                                       |
| 12116            | 24608           | 31089          | 4.97              | 6.0E-84                          | 11526188              | NT                      | Homo sapiens interfeulin 10 receptor, beta (IL10RB), mRNA  |
| 801              | 13573           | 26235          | 2.85              | 5.0E-84                          | AF231918.1            | NT                      | Homo sapiens chromosome 21 unknown mRNA  |
| 801              | 13573           | 26236          | 2.85              | 5.0E-84                          | AF231919.1            | NT                      | Homo sapiens chromosome 21 unknown mRNA  |
| 1315             | 14084           | 28738          | 1.84              | 5.0E-84                          | AB020710.1            | NT                      | Homo sapiens mRNA for KIAA0903 protein, partial cds  |
| 1401             | 14148           | 28827          | 1.3               | 5.0E-84                          | L40833.1              | NT                      | Homo sapiens phosphoglucomutase-related protein (PGM1P) gene, complete cds                             |
| 1401             | 14148           | 28828          | 1.3               | 5.0E-84                          | L40833.1              | NT                      | Homo sapiens phosphoglucomutase-related protein (PGM1P) gene, complete cds                             |
| 1706             | 14449           | 27149          | 1.37              | 5.0E-84                          | U88258.1              | NT                      | Human M3mbp protein homolog mRNA, complete cds   |
| 28229            | 14210           | 28897          | 4.85              | 5.0E-84                          | 7882205               | NT                      | Homo sapiens KIAA0618 gene product (KIAA0618), mRNA  |
| 28229            | 14210           | 28898          | 4.85              | 5.0E-84                          | 7882205               | NT                      | Homo sapiens KIAA0618 gene product (KIAA0618), mRNA  |
| 3940             | 18690           | 29328          | 6.71              | 5.0E-84                          | AF017433.1            | NT                      | Homo sapiens putative transcription factor CR53 (CRS3) mRNA, partial cds                               |
| 4085             | 18828           | 29455          | 1.05              | 5.0E-84                          | AB020710.1            | NT                      | Homo sapiens mRNA for KIAA0903 protein, partial cds  |
| 7716             | 20380           | 33483          | 0.58              | 4.0E-84                          | BE794607.1            | EST_HUMAN               | 601590382F1 NIH MGCC_7 Homo sapiens cDNA clone IMAGE-3944397 5'  |
| 10716            | 23404           | 36844          | 2.23              | 4.0E-84                          | AW813783.1            | EST_HUMAN               | RC3-ST0187-1/20/2000-015-e03 ST0187 Homo sapiens cDNA  |
| 10716            | 23404           | 36845          | 2.23              | 4.0E-84                          | AW813783.1            | EST_HUMAN               | RC3-ST0187-1/20/2000-015-e03 ST0187 Homo sapiens cDNA  |
| 2195             | 14924           | 27658          | 5.41              | 3.0E-84                          | C18895.1              | EST_HUMAN               | C18895 Human placenta cDNA (TF4Livera) Homo sapiens cDNA clone GEN-568E02 5'                           |
| 3249             | 18011           | 28862          | 0.89              | 3.0E-84                          | BE794381.1            | EST_HUMAN               | 601589856F1 NIH MGCC_7 Homo sapiens cDNA clone IMAGE-3943577 5'  |
| 3436             | 18192           | 28841          | 2.22              | 3.0E-84                          | AV711714.1            | EST_HUMAN               | AV711714 DCA Homo sapiens cDNA clone DC2AMC01 5'   |
| 3436             | 18192           | 28842          | 2.22              | 3.0E-84                          | AV711714.1            | EST_HUMAN               | AV711714 DCA Homo sapiens cDNA clone DC2AMC01 5'   |
| 5936             | 18771           | 31734          | 1.21              | 3.0E-84                          | Z26273.1              | NT                      | H. sapiens isoform 1 gene for L-type calcium channel, exon 28  |
| 6401             | 18170           | 32169          | 3.34              | 3.0E-84                          | BF370000.1            | EST_HUMAN               | RC8-FN0018-280600-011-G11 Homo sapiens cDNA  |
| 8385             | 21058           | 34183          | 1.93              | 3.0E-84                          | AF248953.1            | NT                      | Homo sapiens golgi matrix protein GM130 (GOLGA2) mRNA, complete cds                                    |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|--|
| 8365             | 21058           | 34198          | 1.93              | 3.0E-84                          | AF248953.1            | NT                      | Homo sapiens dog Ig matrix protein GM130 (GOLGA2) mRNA, complete cds<br>hb72h12y1 NIH_MGC_12 Homo sapiens cDNA clone IMAGE:3047975 5' similar to gbr108069 DNAJ PROTEIN HOMOLOG 2 (HUMAN); |
| 8393             | 21086           | 34220          | 3.69              | 3.0E-84                          | BE208621.1            | EST_HUMAN               | hb72h12y1 NIH_MGC_12 Homo sapiens cDNA clone IMAGE:3047975 5' similar to gbr108069 DNAJ PROTEIN HOMOLOG 2 (HUMAN);   |
| 8393             | 21088           | 34221          | 3.69              | 3.0E-84                          | BE208621.1            | EST_HUMAN               | Homo sapiens chromosome 21 segment HS21C046  |
| 9327             | 21884           | 35165          | 1.54              | 3.0E-84                          | AL163246.2            | NT                      | Homo sapiens chromosome 21 segment HS21C046  |
| 9327             | 21894           | 35168          | 1.54              | 3.0E-84                          | AL163246.2            | NT                      | Homo sapiens chromosome 21 segment HS21C046  |
| 9414             | 22082           | 35263          | 0.6               | 3.0E-84                          | AW977384.1            | EST_HUMAN               | EST389493 MAGE sequences, MAGO Homo sapiens cDNA   |
| 9414             | 22092           | 35264          | 0.6               | 3.0E-84                          | AW977384.1            | EST_HUMAN               | EST389493 MAGE sequences, MAGO Homo sapiens cDNA   |
| 11681            | 24286           | 37608          | 1.8               | 3.0E-84                          | AL163227.2            | NT                      | Homo sapiens chromosome 21 segment HS21C027  |
| 1068             | 13824           | 26484          | 1.64              | 2.0E-84                          | AA609920.1            | EST_HUMAN               | af09d08.51 Scores tests NHT Homo sapiens cDNA clone IMAGE:1031151 3'   |
| 1377             | 14125           | 26789          | 1.54              | 2.0E-84                          | 4757701               | NT                      | Homo sapiens eIF4E-like cap-binding protein (4EHP) mRNA<br>wo87b01.x1 NC1_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:2482281 3' similar to contains element L1 repetitive element;           |
| 2628             | 16244           |                | 1.82              | 2.0E-84                          | AI927030.1            | EST_HUMAN               | Homo sapiens chromosome 21 segment HS21C046  |
| 2533             | 15248           | 27987          | 2.05              | 2.0E-84                          | AL163246.2            | NT                      | Homo sapiens chromosome 21 segment HS21C046  |
| 2533             | 15248           | 27988          | 2.05              | 2.0E-84                          | AL163246.2            | NT                      | Homo sapiens glutamic-oxaloacetic transaminase 2, mitochondrial (aspartate aminotransferase 2) (GOT2), nuclear gene encoding mitochondrial protein, mRNA                                   |
| 3137             | 15901           | 28546          | 1.42              | 2.0E-84                          | 4504068               | NT                      | EST1370215 MAGE sequences, MAGO Homo sapiens cDNA  |
| 3767             | 16619           | 28157          | 0.78              | 2.0E-84                          | AW958145.1            | EST_HUMAN               | EST1370215 MAGE sequences, MAGO Homo sapiens cDNA  |
| 3767             | 16619           | 28158          | 0.78              | 2.0E-84                          | AW958145.1            | EST_HUMAN               | EST1370215 MAGE sequences, MAGO Homo sapiens cDNA  |
| 5916             | 18701           | 31655          | 2.78              | 2.0E-84                          | AU124387.1            | EST_HUMAN               | AU124387 NT2RM2 Homo sapiens cDNA clone NT2RM2002113 5'  |
| 6148             | 18925           | 31895          | 1.47              | 2.0E-84                          | AF113708.1            | NT                      | Homo sapiens angiopoietin 4 (ANG4) mRNA, partial cds   |
| 6394             | 18163           | 32184          | 5.21              | 2.0E-84                          | BFB88537.1            | EST_HUMAN               | 602123474F1 NIH_MGC_56 Homo sapiens cDNA clone IMAGE:4280395 5'  |
| 6487             | 19283           | 32284          | 1.18              | 2.0E-84                          | AU078387.1            | EST_HUMAN               | oz29b03.x1 Scores total fetus NB21IF8 9w Homo sapiens cDNA clone IMAGE:1676173'  |
| 6601             | 19364           | 32378          | 4.54              | 2.0E-84                          | MT77185.1             | NT                      | H.sapiens dopamine receptor D5 pseudogene 1, partial cds   |
| 7707             | 20371           | 33484          | 0.7               | 2.0E-84                          | 11431054              | NT                      | Homo sapiens staxin 2-binding protein 1 (A2BP1), mRNA  |
| 7732             | 20395           | 33510          | 0.85              | 2.0E-84                          | AW609785.1            | EST_HUMAN               | QV1-HT0413-010200-058-112 HT0413 Homo sapiens cDNA   |
| 8587             | 21259           | 34295          | 0.73              | 2.0E-84                          | 11434008              | NT                      | Homo sapiens lymphocyte cytosolic protein 1 (L-plastin) (LCP1), mRNA   |
| 8587             | 21259           | 34296          | 0.73              | 2.0E-84                          | 11434008              | NT                      | Homo sapiens lymphocyte cytosolic protein 1 (L-plastin) (LCP1), mRNA   |
| 9038             | 21728           | 34582          | 0.56              | 2.0E-84                          | 11423508              | NT                      | Homo sapiens hypothetical protein SBB167 (LOC57115), mRNA  |
| 9130             | 21818           | 34684          | 0.97              | 2.0E-84                          | AU132570.1            | EST_HUMAN               | AU132570 NT2RP4 Homo sapiens cDNA clone NT2RP4000109 5'  |
| 9879             | 22529           | 35726          | 0.59              | 2.0E-84                          | T06397.1              | EST_HUMAN               | EST04286 Fetal brain, Strategene (cat#836206) Homo sapiens cDNA clone HFBD588  |
| 9879             | 22529           | 35727          | 0.59              | 2.0E-84                          | T06397.1              | EST_HUMAN               | EST04286 Fetal brain, Strategene (cat#836206) Homo sapiens cDNA clone HFBD588  |
| 10692            | 23353           | 36592          | 3.72              | 2.0E-84                          | BF528114.1            | EST_HUMAN               | 602042882F1 NCI_CCAP_Bm87 Homo sapiens cDNA clone IMAGE:4180556 5'   |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 10981            | 23658           | 36909          | 5.67              | 2.0E-84                              | AJ922811.1            | EST_HUMAN               | wn81b08.x1 NCI CGAP_LH1 Homo sapiens cDNA clone IMAGE:2452211 3'   |
| 10981            | 23658           | 36910          | 5.57              | 2.0E-84                              | AJ922911.1            | EST_HUMAN               | wn81b08.x1 NCI CGAP_LH1 Homo sapiens cDNA clone IMAGE:2452211 3'   |
| 11198            | 23863           | 37149          | 1.78              | 2.0E-84                              | AW864773.1            | EST_HUMAN               | PM2_SN0018-220300-002-e12 SN0018 Homo sapiens cDNA Homo sapiens perfod (Drosophila) homolog 3 (PER3). mRNA   |
| 12039            | 24862           | 31114          | 1.65              | 2.0E-84                              | 8567387.NT            |                         | Homo sapiens chromosome 22 exon Homo sapiens cDNA clone C22_132 5'   |
| 12468            | 24834           |                | 4.85              | 2.0E-84                              | H55162.1              | EST_HUMAN               | CHR220101 Chromosome 22 exon Homo sapiens cDNA clone C22_132 5'  |
| 251              | 13060           | 25698          | 2.94              | 1.0E-84                              | AF231918.1            | NT                      | Homo sapiens chromosome 21 unknown mRNA  |
| 1772             | 14514           | 27214          | 10.45             | 1.0E-84                              | AJ920419.1            | EST_HUMAN               | af620cd1.x1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2519136 3' similar to gbr121698 cds1 PROTHYROSIN ALPHA (HUMAN) contains element MSR1 repetitive element ;  |
| 3010             | 15776           | 28426          | 0.79              | 1.0E-84                              | 4507334.NT            |                         | Homo sapiens synaptotagmin 1 (SYN1). mRNA  |
| 3501             | 16257           | 28912          | 5.74              | 1.0E-84                              | AF198779.1            | NT                      | Homo sapiens transcription factor IgHm enhancer 3, JM11 protein, JM4 protein, JM5 protein, T54 protein, JM10 protein, A4 differentiation-dependent protein, triple LIM domain protein 6, and synaptophysin genes, complete cds; and L-type calcium channel > |
| 3572             | 16327           | 28974          | 1.27              | 1.0E-84                              | AF228527.1            | NT                      | Homo sapiens TRIAD3 mRNA, partial cds  |
| 3572             | 16327           | 28975          | 1.27              | 1.0E-84                              | AF228527.1            | NT                      | Homo sapiens TRIAD3 mRNA, partial cds  |
| 3881             | 16831           | 28970          | 0.79              | 1.0E-84                              | 8922829.NT            |                         | Homo sapiens hypothetical protein FLJ11028 (FLJ11028). mRNA  |
| 8984             | 22812           | 35816          | 1.07              | 1.0E-84                              | AA042976.1            | EST_HUMAN               | z53t08.s1 Soares, pregnant uterus NbHPU Homo sapiens cDNA clone IMAGE:486567 3'  |
| 12012            | 24545           |                | 1.81              | 1.0E-84                              | AL163246.2            | NT                      | Homo sapiens chromosome 21 segment HS21O48   |
| 2274             | 15000           | 27733          | 1.53              | 9.0E-85                              | X89211.1              | NT                      | H.sapiens DNA for endogenous retroviral like element   |
| 2274             | 15000           | 27739          | 1.53              | 9.0E-85                              | X89211.1              | NT                      | H.sapiens DNA for endogenous retroviral like element   |
| 11523            | 24123           |                | 10.43             | 9.0E-85                              | BF3304676.1           | EST_HUMAN               | QV4-BT0257-081199-017-803 BT0257 Homo sapiens cDNA   |
| 11493            | 24094           | 37405          | 10.87             | 8.0E-85                              | AJ929244.1            | EST_HUMAN               | eu81h07.x1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2519005 3' similar to SW:RL21_HUMAN P46778 60S RIBOSOMAL PROTEIN L21.;  |
| 100556           | 22703           | 35921          | 2.01              | 7.0E-85                              | BE081653.1            | EST_HUMAN               | QV2-BT0635-240400-162-c02 BT0635 Homo sapiens cDNA   |
| 11807            | 24397           | 37731          | 1.27              | 7.0E-85                              | Z21378.1              | EST_HUMAN               | HSAAAEEAWO TEST1, Human adult Testis tissue Homo sapiens cDNA clone cam test346 (b)  |
| 1034             | 13794           | 28454          | 3.59              | 6.0E-85                              | AV721898.1            | EST_HUMAN               | AV721898 HTB Homo sapiens cDNA clone HTBBZC06 5'   |
| 1915             | 14652           |                | 4.73              | 6.0E-85                              | AA550828.1            | EST_HUMAN               | 1186d10.s1 NCI CGAP_P111 Homo sapiens cDNA clone IMAGE:9888379 similar to gbk03002 60S RIBOSOMAL PROTEIN L32 (HUMAN);  |
| 6475             | 19242           | 32242          | 0.62              | 6.0E-85                              | AA503892.1            | EST_HUMAN               | nh37b07.s1 NCI CGAP_P15 Homo sapiens cDNA clone IMAGE:984517   |
| 8845             | 21337           | 34481          | 2.3               | 6.0E-85                              | AW083252.1            | EST_HUMAN               | x07b09.s1 NCI CGAP_Co21 Homo sapiens cDNA clone IMAGE:2683545 3' similar to TR:Q63306 Q63306 LONG INTERSPERSED REPETITIVE DNA CONTAINING 7 ORFS. ;contains L1,b2 L1 repetitive element ;   |
| 8909             | 21600           | 34742          | 3.46              | 6.0E-85                              | AA427878.1            | EST_HUMAN               | zw53b08.s1 Soares_total_fetus_Nb2HF8_9M Homo sapiens cDNA clone IMAGE:773747 3'  |
| 8909             | 21600           | 34743          | 3.48              | 6.0E-85                              | AA427878.1            | EST_HUMAN               | zw53b08.s1 Soares_total_fetus_Nb2HF8_9W Homo sapiens cDNA clone IMAGE:773747 3'  |
| 8973             | 21683           | 34814          | 0.81              | 6.0E-85                              | AI085314.1            | EST_HUMAN               | qf18h05.s1 NCI CGAP_Bm25 Homo sapiens cDNA clone IMAGE:1750425 3'  |

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**Table 4**  
**Single Exon Probes Expressed In Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|---|
| 8973             | 21683           | 34815          | 0.81              | 6.0E-85                    | A1085314.1            | EST_HUMAN               | qf1_BH05_x1 NCI_CGAP_Bm25 Homo sapiens cDNA clone IMAGE:11750425 3'                                     |
| 10783            | 23466           | 36707          | 3.82              | 6.0E-85                    | BE567810.1            | EST_HUMAN               | 601340485F1 NIH_MGC_53 Homo sapiens cDNA clone IMAGE:36882677 5'  |
| 10968            | 23644           | 36897          | 1.52              | 6.0E-85                    | BF340825.1            | EST_HUMAN               | 60203772/F1 NCI_CGAP_Bm64 Homo sapiens cDNA clone IMAGE:41858777 5'                                     |
| 11480            | 24081           | 37392          | 1.86              | 6.0E-85                    | AL105210.2            | NT                      | Homo sapiens chromosome 21 segment HS21C10  |
| 1331             | 14080           | 26754          | 1.6               | 5.0E-85                    | 76611851              | NT                      | Homo sapiens KIAA0156 gene product (KIAA0156), mRNA   |
| 1331             | 14080           | 28755          | 1.6               | 5.0E-85                    | 76611851              | NT                      | Homo sapiens KIAA0156 gene product (KIAA0156), mRNA   |
| 2151             | 14881           | 27815          | 1.6               | 5.0E-85                    | AB033768.1            | NT                      | Homo sapiens hPAD-coenzyme10 mRNA for peptide/targinine/dimarginine peptidase type I, complete cds      |
| 3250             | 16012           | 28663          | 1.6               | 5.0E-85                    | 4507848               | NT                      | Homo sapiens ubiquitin specific protease 13 (isopeptidase T-3) (USP13) mRNA                             |
| 3250             | 16012           | 28684          | 1.6               | 5.0E-85                    | 4507848               | NT                      | Homo sapiens ubiquitin specific protease 13 (isopeptidase T-3) (USP13) mRNA                             |
| 10364            | 23011           | 362236         | 1.01              | 5.0E-85                    | AF009888.1            | NT                      | Multiple sclerosis associated retrovirus polyprotein (pd) mRNA, partial cds                             |
| 188              | 18001           | 26542          | 2.02              | 4.0E-85                    | AL120419.1            | EST_HUMAN               | DKFZp761G108_J1761 (synonym: namy2) Homo sapiens cDNA clone DKFZp761G108 5'                             |
| 728              | 13502           | 26158          | 1.37              | 4.0E-85                    | AI269468.1            | EST_HUMAN               | qtm46e011x1 Soares_placenta_8to9weeks_2NbHPstc9W Homo sapiens cDNA clone IMAGE:1891800 3'               |
| 728              | 13502           | 26157          | 1.37              | 4.0E-85                    | AI269468.1            | EST_HUMAN               | qtm46e011x1 Soares_placenta_8to9weeks_2NbHPstc9W Homo sapiens cDNA clone IMAGE:1891800 3'               |
| 1056             | 13814           | 28475          | 1.38              | 4.0E-85                    | 4826735               | NT                      | Homo sapiens fragile X mental retardation, autosomal homolog 1 (FXR1), mRNA                             |
| 1469             | 14246           | 28903          | 11.06             | 4.0E-85                    | 45086336              | NT                      | Homo sapiens ribosomal protein L34 (RPL34) mRNA   |
| 2336             | 15080           | 27798          | 0.91              | 4.0E-85                    | BIE221469.1           | EST_HUMAN               | hu25604_x1 NCI_CGAP_Mel15 Homo sapiens cDNA clone IMAGE:3171102 3'                                      |
| 2336             | 15080           | 27797          | 0.91              | 4.0E-85                    | BIE221469.1           | EST_HUMAN               | hu25604_x1 NCI_CGAP_Mel15 Homo sapiens cDNA clone IMAGE:3171102 3'                                      |
| 3020             | 16880           | 28821          | 1.08              | 4.0E-85                    | AW988185.1            | EST_HUMAN               | RC2-BN0393-180200-013-003 BN0393 Homo sapiens cDNA  |
| 5124             | 17842           | 30459          | 1.03              | 4.0E-85                    | 8056289               | NT                      | Homo sapiens low density lipoprotein receptor related protein-deleted in tumor (LRPDT1), mRNA           |
| 5124             | 17842           | 30460          | 1.03              | 4.0E-85                    | 8055289               | NT                      | Homo sapiens low density lipoprotein receptor related protein-deleted in tumor (LRPDT1), mRNA           |
| 6063             | 18842           | 31804          | 4.6               | 4.0E-85                    | AB033038.1            | NT                      | Homo sapiens mRNA for KIAA1287 protein, partial cds   |
| 6063             | 18842           | 31805          | 4.6               | 4.0E-85                    | AB033038.1            | NT                      | Homo sapiens mRNA for KIAA1287 protein, partial cds   |
| 6683             | 18976           | 32723          | 0.55              | 4.0E-85                    | A10083172.1           | NT                      | Homo sapiens cyclard binding protein 3 (ORF3) mRNA, complete cds  |
| 7017             | 19709           | 32765          | 0.97              | 4.0E-85                    | M138879.1             | NT                      | Human cyclardin 27 gene, exons 10 and 11, and L1 and Alu repeats  |
| 7119             | 19807           | 32873          | 2.52              | 4.0E-85                    | 11645780              | NT                      | Homo sapiens hypothetical protein FLJ22087 (FLJ22087), mRNA   |
| 7448             | 20124           | 33215          | 0.97              | 4.0E-85                    | U40372.1              | NT                      | Human 3'5' cyclic nucleotide phosphodiesterase (HSPDDE1C3A) mRNA, partial cds                           |
| 7448             | 20124           | 33216          | 0.97              | 4.0E-85                    | U40372.1              | NT                      | Human 3'5' cyclic nucleotide phosphodiesterase (HSPDDE1C3A) mRNA, partial cds                           |
| 7741             | 20437           | 33558          | 1.86              | 4.0E-85                    | 5453768               | NT                      | Homo sapiens nel (chicken)-like 2 (NELL2), mRNA   |
| 7741             | 20437           | 33559          | 1.86              | 4.0E-85                    | 6463765               | NT                      | Homo sapiens nel (chicken)-like 2 (NELL2), mRNA   |
| 9044             | 21734           | 34888          | 0.63              | 4.0E-85                    | 11428127              | NT                      | Homo sapiens Janus kinase 2 (a protein tyrosine kinase) (JAK2), mRNA                                    |
| 10450            | 23126           |                | 2.04              | 4.0E-85                    | AJ277548.2            | NT                      | Homo sapiens WEE1 gene for protein kinase and partial ZNF143 genes for zinc finger transcription factor |

**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | (Top) Hit No. | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------|---------------|-----------------------|--|--------------------|
| 10874            | 23564           | 36801          | 1.97              | 4.0E-65                    | AV738784.1    | EST_HUMAN             | AV738784 CB Homo sapiens cDNA clone CBCCBE05 5'  |                    |
| 11041            | 23712           | 36892          | 3.68              | 4.0E-65                    | AF119846.1    | NT                    | Homo sapiens PRO10174 mRNA, complete cds   |                    |
| 12319            | 13814           | 28475          | 1.48              | 4.0E-65                    | 4820735       | NT                    | Homo sapiens fragile X mental retardation, autosomal homolog 1 (FXR1), mRNA  |                    |
| 1210             | 15522           |                | 3.8               | 3.0E-65                    | X78932.1      | NT                    | H sapiens HZF9 mRNA for zinc finger protein  |                    |
| 1651             | 14287           | 26894          | 0.91              | 3.0E-65                    | 4504628       | NT                    | Homo sapiens immunoglobulin superfamily, member 3 (IGSF3) mRNA, and translated products  |                    |
| 1816             | 14568           | 27271          | 0.83              | 3.0E-65                    | A1000692.1    | EST_HUMAN             | ov23f03.s1 Scores _testis_NHT Homo sapiens cDNA clone IMAGE:1638173 3' similar to contains element                             |                    |
| 3271             | 16032           | 28683          | 0.75              | 3.0E-65                    | 4504950       | NT                    | Homo sapiens laminin, beta 1 (LAMB1), mRNA   |                    |
| 3709             | 18462           | 29101          | 0.89              | 3.0E-65                    | A1000692.1    | EST_HUMAN             | ov23f03.s1 Scores _testis_NHT Homo sapiens cDNA clone IMAGE:1638173 3' similar to contains element                             |                    |
| 4602             | 17337           | 28998          | 1.91              | 3.0E-65                    | 6912985       | NT                    | Homo sapiens rab6 GTPase activating protein (GAP and centrosome-associated) (GAPCENA), mRNA                                    |                    |
| 8869             | 22817           | 35820          | 1.44              | 3.0E-65                    | BE787368.1    | EST_HUMAN             | 601479886FT NIH MGIC_68 Homo sapiens cDNA clone IMAGE:3882406 5'   |                    |
| 11363            | 23174           | 36402          | 11.12             | 3.0E-65                    | AA430068.1    | EST_HUMAN             | ZW65aa081.1 Scores _testis_NHT Homo sapiens cDNA clone IMAGE:781042 5'   |                    |
| 33889            | 16157           | 28898          | 5.75              | 2.0E-65                    | BF680294.1    | EST_HUMAN             | 6021650562FT NIH MGIC_83 Homo sapiens cDNA clone IMAGE:4288968 5'  |                    |
| 8442             | 19210           |                | 2.48              | 2.0E-65                    | BE263373.1    | EST_HUMAN             | 6011908831FT NIH MGIC_7 Homo sapiens cDNA clone IMAGE:3534741 5'   |                    |
| 7032             | 19724           | 32790          | 32.07             | 2.0E-65                    | BF676922.1    | EST_HUMAN             | 6021343681FT NIH MGIC_81 Homo sapiens cDNA clone IMAGE:4289285 5'  |                    |
| 8744             | 21436           | 34592          | 1.06              | 2.0E-65                    | AK024463.1    | NT                    | Homo sapiens mRNA for FLJ00056 protein, partial cds  |                    |
| 8744             | 21436           | 34593          | 1.08              | 2.0E-65                    | AK024463.1    | NT                    | Homo sapiens mRNA for FLJ00056 protein, partial cds  |                    |
| 10552            | 23248           | 38485          | 2                 | 2.0E-65                    | 11419247      | NT                    | Homo sapiens SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 3 (SMARCD3), mRNA |                    |
| 11989            | 24615           |                | 3.65              | 2.0E-65                    | AA307804.1    | EST_HUMAN             | EST17178755 Cadm carcinoma (HCC) cell line Homo sapiens cDNA clone IMAGE:4073769 5'  |                    |
| 12491            | 25159           |                | 2.2               | 2.0E-65                    | BF248088.1    | EST_HUMAN             | 601854033FT1 NIH MGIC_57 Homo sapiens cDNA clone IMAGE:4073769 5'  |                    |
| 89               | 12915           |                | 1.59              | 1.0E-65                    | BF125544.1    | EST_HUMAN             | 601783488FT1 NIH MGIC_20 Homo sapiens cDNA clone IMAGE:4028601 5'  |                    |
| 526              | 13310           | 25943          | 1.44              | 1.0E-65                    | 7657495       | NT                    | Homo sapiens putative Rab GDP/GTP exchange factor homologue (RABEF6), mRNA   |                    |
| 2033             | 14768           | 27498          | 1.29              | 1.0E-65                    | AB04046.1     | NT                    | Homo sapiens mRNA for KIAA1513 protein, partial cds  |                    |
| 3285             | 16124           | 28781          | 0.81              | 1.0E-65                    | BE468881.1    | EST_HUMAN             | nz246082X1 NCI CGAP_GCG Homo sapiens cDNA clone IMAGE:3208883 3'   |                    |
| 3980             | 16728           | 29322          | 2.47              | 1.0E-65                    | 4504082       | NT                    | Homo sapiens glyican 4 (GPC4), mRNA  |                    |
| 9980             | 16728           | 29333          | 2.47              | 1.0E-65                    | 4504082       | NT                    | Homo sapiens glycan 4 (GPC4), mRNA   |                    |
| 4183             | 18823           | 29551          | 2.01              | 1.0E-65                    | AW028340.1    | EST_HUMAN             | WD09c052X1 NCI CGAP_GCG Homo sapiens cDNA clone IMAGE:2543152 3'   |                    |
| 8152             | 20846           | 33977          | 2.04              | 1.0E-65                    | AW820481.1    | EST_HUMAN             | QV2-ST0288-140290-042-112 ST0288 Homo sapiens cDNA   |                    |
| 8152             | 20846           | 33978          | 2.04              | 1.0E-65                    | AW820481.1    | EST_HUMAN             | QV2-ST0288-140290-042-112 ST0288 Homo sapiens cDNA   |                    |

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 Table 4  
 Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 4832             | 17071           | 28700          | 1.15              | 8.0E-66                              | AI924653.1            | EST_HUMAN               | wf57h07_x1 NCI_C3AP_Ln19 Homo sapiens cDNA clone IMAGE-2449597 3' similar to WF-F1569.4A  |
| 83333            | 21029           | 0.48           | 8.0E-66           | BE178563.1                           | EST_HUMAN             | CE-183695;              |   |
| 11108            | 23778           | 37052          | 3.14              | 8.0E-66                              | X69161.1              | NT                      | H.sapiens mRNA for ribosomal protein L31  |
| 1346             | 14094           | 26769          | 1.45              | 5.0E-66                              | BE064410.1            | EST_HUMAN               | RC4-BT0311-141189-0114-008 BT0311 Homo sapiens cDNA   |
| 5046             | 17765           | 30382          | 0.74              | 6.0E-66                              | BE898344.1            | EST_HUMAN               | 601681682F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE-3857781 5'  |
| 6048             | 17765           | 30383          | 0.74              | 5.0E-66                              | BE898344.1            | EST_HUMAN               | 601681682F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE-3857781 5'  |
| 9184             | 21884           | 35028          | 16.11             | 6.0E-66                              | 11420557              | NT                      | Homo sapiens thyroid hormone receptor binding protein (AlB3), mRNA  |
| 773              | 13545           | 26206          | 0.98              | 4.0E-66                              | 8878616               | NT                      | Mus musculus fragile X mental retardation syndrome 1 homolog (Fmr1), mRNA   |
| 1728             | 14471           | 27170          | 1.14              | 4.0E-68                              | AW_897798.1           | EST_HUMAN               | RC1-NN0083-100500-022-e02 NN0083 Homo sapiens cDNA  |
| 2278             | 15004           | 27744          | 1.83              | 4.0E-68                              | X89211.1              | NT                      | H.sapiens DNA for endogenous retroviral like element  |
| 2477             | 15195           |                | 3.02              | 4.0E-68                              | AJ223364.1            | NT                      | Homo sapiens gamma-like DNA upstream of J kappa locus   |
| 4733             | 17465           |                | 10.88             | 4.0E-68                              | 9835487               | NT                      | Human endogenous retrovirus, complete genome  |
| 5463             | 18262           | 31153          | 3.73              | 4.0E-68                              | 11428843              | NT                      | Human endogenous tetrahydrofolate dehydrogenase (NAD+ dependent), methenyltetrahydrofolate cyclohydrolase (MTHFD2), mRNA  |
| 6657             | 18452           | 31398          | 1.15              | 4.0E-68                              | AW_893919.1           | EST_HUMAN               | QV1-DT0059-110200-067-g010 DT0059 Homo sapiens cDNA   |
| 6767             | 17828           | 30561          | 4.83              | 4.0E-68                              | AW865473.1            | EST_HUMAN               | EST375648 MAGE mesequences, MAGI Homo sapiens cDNA  |
| 7031             | 19723           | 32778          | 7.98              | 4.0E-66                              | U78168.1              | NT                      | Homo sapiens cAMP-regulated guanine nucleotide exchange factor 1 (cAMP-GEFI) mRNA, complete cds   |
| 7529             | 16262           | 31163          | 0.72              | 4.0E-66                              | 11428843              | NT                      | Homo sapiens methylene tetrahydrofolate dehydrogenase (NAD+ dependent), methenyltetrahydrofolate cyclohydrolase (MTHFD2), mRNA  |
| 7976             | 20071           | 33794          | 5.63              | 4.0E-66                              | 11421638              | NT                      | Homo sapiens hypothetical protein FLJ20116 (FLJ20116), mRNA   |
| 8034             | 20729           | 33862          | 0.73              | 4.0E-66                              | X57147.1              | NT                      | Human endogenous retrovirus pHE-1 (ERV9)  |
| 10556            | 23252           | 38489          | 1.97              | 4.0E-66                              | BF507483.1            | EST_HUMAN               | UH-BV1-amr-a-10-0-JL_s1 NCL_CGAP_Sub7 Homo sapiens cDNA clone IMAGE-3070747 3'  |
| 11351            | 24041           | 37344          | 1.28              | 4.0E-66                              | AB023215.1            | NT                      | Homo sapiens solute carrier family 26 (mitochondrial carrier, adenine nucleotide translocator), member 6 (SLC25A5), nuclear gene encoding mitochondrial protein, mRNA |
| 1407             | 14154           | 28835          | 10.98             | 3.0E-66                              | 4602098               | NT                      | Homo sapiens solute carrier family 25 (mitochondrial carrier, adenine nucleotide translocator), member 5 (SLC25A6), nuclear gene encoding mitochondrial protein, mRNA |
| 1407             | 14154           | 28836          | 10.98             | 3.0E-66                              | 4502098               | NT                      | yZ7g12.1 Scares_multiple_sclerosis_2N1bHMSP Homo sapiens cDNA clone IMAGE-224328 5' similar to SW-H2B1_TIGCA P35068 HISTONE H2B.1/H2B.2 [2] PIR:BB56612;              |
| 1875             | 14711           | 27429          | 1.18              | 3.0E-66                              | N55323.1              | EST_HUMAN               | yZ7g12.1 Scares_multiple_sclerosis_2N1bHMSP Homo sapiens cDNA clone IMAGE-224328 5' similar to SW:H2B1_TIGCA P35068 HISTONE H2B.1/H2B.2 [2] PIR:BB56612;              |
| 1976             | 14711           | 27430          | 1.16              | 3.0E-66                              | N55323.1              | EST_HUMAN               |   |

Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source                                | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|--|--|
| 1875             | 14711           | 27431          | 1.16              | 3.0E-68                          | NE5323.1              | EST_HUMAN  | yZTg12_r1 Soares_multiple_sclerostis_2NIHIMSP Homo sapiens cDNA clone IMAGE:284326 5' similar to SW-H2B1_TIGCA P35058_HISTONE H2B.1/H2B.2 [2] PIR:BS56812; |
| 2711             | 15418           | 28156          | 3.54              | 3.0E-68                          | 11141880              | NT   | Homo sapiens TGF(beta)-induced transcription factor 2 (TGIF2), mRNA  |
| 3115             | 16880           | 28520          | 6.3               | 3.0E-68                          | 7662223               | NT   | Homo sapiens KIAA0849 gene product (KIAA0849), mRNA  |
| 5380             | 18180           | 30870          | 1.14              | 3.0E-68                          | AB020389.1            | NT   | Homo sapiens protein kinase C beta-II type (PRKCBI), mRNA, complete cds  |
| 5490             | 18289           | 31188          | 0.73              | 3.0E-68                          | M13975.1              | NT   | Homo sapiens protein kinase C beta-II type (PRKCBI), mRNA, complete cds  |
| 6886             | 18479           | 31397          | 1.92              | 3.0E-68                          | 11417946              | NT   | Homo sapiens NIPSNAP, C. elegans, homolog 1 (NIPSNAP1), mRNA   |
| 6886             | 18479           | 31398          | 1.92              | 3.0E-68                          | 11417946              | NT   | Homo sapiens NIPSNAP, C. elegans, homolog 1 (NIPSNAP1), mRNA   |
| 8426             | 22103           | 35275          | 0.62              | 3.0E-68                          | AK024453.1            | NT   | Homo sapiens mRNA for FLJ00045 protein, partial cds  |
| 8619             | 22272           | 35459          | 0.52              | 3.0E-68                          | 11417118              | NT   | Homo sapiens KIAA0433 protein (KIAA0433), mRNA   |
| 8873             | 22621           | 35826          | 0.8               | 3.0E-68                          | 7019480               | NT   | Homo sapiens protocadherin beta 1 (PCDH-beta1), mRNA   |
| 10420            | 23068           | 36287          | 0.97              | 3.0E-68                          | AF155959.1            | NT   | Homo sapiens myobdium cofactor biosynthesis protein E (MCBPE), mRNA, complete cds  |
| 11494            | 24095           | 37406          | 6.16              | 3.0E-68                          | 5453949               | NT   | Homo sapiens protein phosphatase 2, regulatory subunit B (B56), alpha isoform (PPP2R5A) mRNA   |
| 11808            | 24398           | 37730          | 1.57              | 3.0E-68                          | AF222391.1            | NT   | Homo sapiens calcium channel alpha1E subunit (CACNA1E) gene, exons 7-49, and partial cds, alternatively spliced  |
| 60               | 12879           | 25505          | 2.15              | 2.0E-68                          | 7857334               | NT   | Homo sapiens Misshephen/NIK-related kinase (MINK), mRNA  |
| 50               | 12879           | 25506          | 2.15              | 2.0E-68                          | 7657334               | NT   | Homo sapiens Misshephen/NIK-related kinase (MINK), mRNA  |
| 413              | 12824           | 25437          | 1.76              | 2.0E-68                          | 4505524               | NT   | Homo sapiens origin recognition complex, subunit 5 (yeast homolog)-like (ORC5L) mRNA, and translated products  |
| 413              | 12824           | 25438          | 1.76              | 2.0E-68                          | 4505524               | NT   | Homo sapiens origin recognition complex, subunit 5 (yeast homolog)-like (ORC5L) mRNA, and translated products  |
| 1819             | 14558           | 27272          | 2.05              | 2.0E-68                          | AL163301.2            | NT   | Homo sapiens chromosome 21 segment HS21C101  |
| 3510             | 16268           | 28920          | 0.77              | 2.0E-68                          | 6923290               | NT   | Homo sapiens hypothetical protein FLJ20309 (FLJ20309), mRNA  |
| 3747             | 16500           | 29134          | 0.68              | 2.0E-68                          | AL117233.1            | NT   | Novel human gene mapping to chromosome 1   |
| 4044             | 16789           | 29417          | 0.8               | 2.0E-68                          | AF105338.1            | NT   | Homo sapiens sodium/calcium exchanger NaCa3 (NCX1) mRNA, complete cds  |
| 4607             | 17342           | 29973          | 9.48              | 2.0E-68                          | AJ153267.2            | NT   | Homo sapiens HLA-B gene for human leukocyte antigen B  |
| 4607             | 17342           | 29974          | 9.48              | 2.0E-68                          | AJ153267.2            | NT   | Homo sapiens HLA-B gene for human leukocyte antigen B  |
| 5728             | 18518           | 31439          | 1.3               | 2.0E-68                          | AW688854.1            | EST_HUMAN  | EST380930 MAGE sequences, MAGI Homo sapiens cDNA   |
| 5728             | 18518           | 31440          | 1.3               | 2.0E-68                          | AW688854.1            | EST_HUMAN  | EST380930 MAGE sequences, MAGI Homo sapiens cDNA   |
| 8746             | 21438           | 34585          | 2.26              | 2.0E-68                          | N45480.1              | EST_HUMAN  | W59cd2_r1 Soares_multiple_sclerostis_2NIHIMSP Homo sapiens cDNA clone IMAGE:277826 5'  |
| 12329            | 28370           | 237            | 2.0E-68           | 11418318                         | NT                    | Homo sapiens G-2 and S-phase expressed 1 (GTSF1), mRNA |  |
| 1678             | 14422           |                | 1.15              | 1.0E-68                          | BE887173.1            | EST_HUMAN  | 601508376F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:3908881 5'  |
| 2895             | 15662           | 28309          | 1.36              | 1.0E-68                          | AV7178171.1           | EST_HUMAN  | AV717817 DCB Homo sapiens cDNA clone DCBADC07 5'   |

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| Probe Seq ID No: | Exon Seq ID No: | ORF Seq ID No: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source                                       | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|---|--|
| 2895             | 15632           | 28310          | 1.3E-06           | AV717817.1                           | EST_HUMAN             | AV717817 DCB Homo sapiens cDNA clone DCBADC07 5'              |  |
| 4352             | 15632           | 28309          | 3.81              | AV717817.1                           | EST_HUMAN             | AV717817 DCB Homo sapiens cDNA clone DCBADC07 5'              |  |
| 4352             | 15632           | 28310          | 3.81              | AV717817.1                           | EST_HUMAN             | AV717817 DCB Homo sapiens cDNA clone DCBADC07 5'              |  |
| 5287             | 18102           | 30761          | 5.8E-06           | BF073088.1                           | EST_HUMAN             | 60215288F1 NIH_MGC_81 Homo sapiens cDNA clone IMAGE-429416 5' |  |
| 56892            | 18486           | 31406          | 0.77              | 1.0E-06                              | BE765232.1            | EST_HUMAN   | IL2-NT0101-280700-116-E04 NT0101 Homo sapiens cDNA   |
| 56892            | 18486           | 31407          | 0.77              | 1.0E-06                              | BE765232.1            | EST_HUMAN   | IL2-NT0101-280700-116-E04 NT0101 Homo sapiens cDNA   |
| 68339            | 18501           | 32526          | 1.57              | 1.0E-06                              | BF328623.1            | EST_HUMAN   | RC5-BN0198-010800-034-G08 BN010183 Homo sapiens cDNA   |
| 8357             | 21050           | 34189          | 1.19              | 1.0E-06                              | AA688858.1            | EST_HUMAN   | aa688858-51 NCI CGAP_GCB1 Homo sapiens cDNA clone IMAGE-827202 3'  |
| 83226            | 21883           | 36164          | 0.84              | 1.0E-06                              | AA018828.1            | EST_HUMAN   | z537e12.r1 Soares retina N2b-4IR Homo sapiens cDNA clone IMAGE-358118 5'   |
| 10270            | 22818           | 36129          | 0.82              | 1.0E-06                              | AV748749.1            | EST_HUMAN   | AV748749 NPC Homo sapiens cDNA clone NP028V/A05 5'   |
| 10270            | 22818           | 36130          | 0.82              | 1.0E-06                              | AV748749.1            | EST_HUMAN   | AV748749 NPC Homo sapiens cDNA clone NP028V/A05 5'   |
| 108862           | 23542           | 36789          | 2.48              | 1.0E-06                              | AF111167.2            | NT  | Homo sapiens Jun dimerization protein gene, partial cds; cfos gene, complete cds; and unknown gene   |
| 115039           | 24109           | 37422          | 1.8               | 1.0E-06                              | AW988744.1            | EST_HUMAN   | EST380820 IMAGE resequences, MACU1 Homo sapiens cDNA   |
| 12113            | 24606           |                | 2.61              | 9.0E-07                              | 11418177              | NT  | Homo sapiens Ran GTPase activating protein 1 (RANGAP1), mRNA   |
|                  |                 |                |                   |                                      |                       |   | eu75402-x1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE-2782083 3' similar to gb:NM37104  |
| 371              | 13186           | 25841          | 1.52              | 7.0E-07                              | AW162232.1            | EST_HUMAN   | ATP SYNTHASE COUPLING FACTOR 6, MITOCHONDRIAL PRECURSOR (HUMAN); EST98812 Testis   Homo sapiens cDNA 5' end similar to C. elegans hypothetical protein, cosmid ZK353 |
| 1361             | 14109           | 26784          | 2.89              | 7.0E-07                              | AA363418.1            | EST_HUMAN   | 2b558d5.r1 Soares fetal liver spleen INFSL_S1 Homo sapiens cDNA clone IMAGE-416049 5'  |
| 1547             | 14283           | 26979          | 1.38              | 7.0E-07                              | W85947.1              | EST_HUMAN   | 2b558d5.r1 Soares fetal liver spleen INFSL_S1 Homo sapiens cDNA clone IMAGE-416049 5'  |
| 1547             | 14283           | 26980          | 1.38              | 7.0E-07                              | W85947.1              | EST_HUMAN   | 2b558d5.r1 Soares fetal liver spleen INFSL_S1 Homo sapiens cDNA clone IMAGE-416049 5'  |
| 2028             | 14761           | 27489          | 2.06              | 7.0E-07                              | 7657243               | NT  | Homo sapiens Inositol 1,3,4-triphosphate 6/6 kinase (ITPK1), mRNA  |
| 2028             | 14781           | 27480          | 2.03              | 7.0E-07                              | 7657243               | NT  | Homo sapiens Inositol 1,3,4-triphosphate 6/6 kinase (ITPK1), mRNA  |
| 2813             | 13186           | 25841          | 3.4               | 7.0E-07                              | AW162232.1            | EST_HUMAN   | eu75402-x1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE-2782083 3' similar to gb:NM37104  |
| 59869            | 18770           | 31753          | 0.78              | 7.0E-07                              | 10180685              | NT  | ATP SYNTHASE COUPLING FACTOR 6, MITOCHONDRIAL PRECURSOR (HUMAN); Homo sapiens zinc finger protein 304 [ZNF304], mRNA   |
| 61177            | 18954           | 31927          | 2.02              | 7.0E-07                              | 11425572              | NT  | Homo sapiens adaptor-related protein complex 2, beta 1 subunit (AP2B1), mRNA   |
| 61177            | 18954           | 31928          | 2.02              | 7.0E-07                              | 11425572              | NT  | Homo sapiens adaptor-related protein complex 2, beta 1 subunit (AP2B1), mRNA   |
| 6623             | 18385           | 32369          | 1.29              | 7.0E-07                              | 4885084               | NT  | Homo sapiens ATPase, H+ transporting, lysosomal (vacuolar protein pump) non-catalytic accessory protein 1A (110/116kD) (ATP6A1A), mRNA                               |
| 7531             | 20201           | 33296          | 1                 | 7.0E-07                              | 11419212              | NT  | Homo sapiens mitochondrial carrier family protein (LOC55972), mRNA   |
| 7531             | 20201           | 33297          | 1                 | 7.0E-07                              | 11419212              | NT  | Homo sapiens mitochondrial carrier family protein (LOC55972), mRNA   |
| 82222            | 20916           | 34052          | 0.59              | 7.0E-07                              | 4557732               | NT  | Homo sapiens latent transforming growth factor beta binding protein 2 (LTBP2), mRNA  |
| 8830             | 21522           | 34689          | 0.58              | 7.0E-07                              | 10835044              | NT  | Homo sapiens retinaldehyde dehydrogenase 2 (RALDH2), mRNA  |

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 Table 4

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| Probe Seq ID No. | Exon Seq ID No. | ORF Seq ID No: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 112566           | 239198          |                | 1.96              | 7.0E-67                              | 11434578              | NT                      | Homo sapiens fucosyltransferase 8 (alpha (1,6) fucosyltransferase) (FUT8), mRNA   |
| 116777           | 242727          | 37594          | 6.37              | 7.0E-67                              | U82486;1              | NT                      | Human cytochrome oxidase subunit Vta (COX8A1P) pseudogene, complete cds   |
| 118988           | 24465           | 37803          | 2.24              | 7.0E-67                              | 11430460              | NT                      | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA   |
| 118988           | 24465           | 37804          | 2.24              | 7.0E-67                              | 11430460              | NT                      | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA   |
| 12355            | 24759           | 31061          | 1.58              | 7.0E-67                              | AB011390;1            | NT                      | Homo sapiens gene for AF-6, complete cds  |
| 5448             | 133239          | 239560         | 2.12              | 6.0E-67                              | X88988;1              | NT                      | H.sapiens mRNA for acetyl-CoA carboxylase   |
| 778              | 125560          | 282111         | 0.92              | 6.0E-67                              | Z17227;1              | NT                      | Homo sapiens mRNA for transmembrane receptor protein  |
| 1250             | 138989          | 28888          | 1.29              | 6.0E-67                              | Y14320;1              | NT                      | Homo sapiens PMMP80 gene, exons 3,4,5,6 & 7   |
| 3163             | 189239          | 28578          | 1.17              | 6.0E-67                              | 4506434               | NT                      | Homo sapiens retinoblastoma 1 (including osteosarcoma) (RB1), mRNA  |
| 3431             | 16187           | 28835          | 1.64              | 6.0E-67                              | 4507332               | NT                      | Homo sapiens Synapsin III (SYN3) mRNA, and translated products  |
| 3431             | 16187           | 28836          | 1.64              | 6.0E-67                              | 4507332               | NT                      | Homo sapiens Synapsin III (SYN3) mRNA, and translated products  |
| 4108             | 16849           | 29474          | 0.7               | 6.0E-67                              | AL163201;2            | NT                      | Homo sapiens chromosome 21 segment HS21C001   |
| 4108             | 16849           | 29475          | 0.7               | 6.0E-67                              | AL163201;2            | NT                      | Homo sapiens chromosome 21 segment HS21C001   |
| 4657             | 17391           | 30025          | 5.01              | 6.0E-67                              | 7857020               | NT                      | Homo sapiens DKFZP434P211 protein (DKFZP434P211), mRNA  |
| 4657             | 17391           | 30026          | 5.01              | 6.0E-67                              | 7857020               | NT                      | Homo sapiens DKFZP434P211 protein (DKFZP434P211), mRNA  |
| 5101             | 176335          |                | 1.23              | 6.0E-67                              | 4507848               | NT                      | Homo sapiens ubiquitin specific protease 13 (peptidase T-3)(USP13) mRNA   |
| 9215             | 15978           | 28620          | 1.91              | 5.0E-67                              | AF069860;1            | NT                      | Homo sapiens T cell receptor beta locus, TCRBV12S2 region   |
| 10905            | 22585           |                | 1.68              | 5.0E-67                              | BE010038;1            | EST_HUMAN               | PM3-BR0118-100400-001-804 BN0176 Homo sapiens cDNA  |
| 1303             | 14054           | 28723          | 0.93              | 4.0E-67                              | R90819;1              | EST_HUMAN               | YN02d11.1T Soares adult brain N244IB55Y Homo sapiens cDNA   |
| 7820             | 20615           | 33749          | 0.82              | 4.0E-67                              | A17330321             | EST_HUMAN               | 928e05.5 NC_ CGAP_Kid3 Homo sapiens cDNA clone IMAGE:1493288 3' similar to SW:Z33A_HUMAN                                  |
| 8281             | 20975           |                | 1.24              | 4.0E-67                              | BF357321;1            | EST_HUMAN               | Q96730 ZINC FINGER PROTEIN_3A;  |
| 10986            | 236689          |                | 1.39              | 4.0E-67                              | AA714284;1            | EST_HUMAN               | RC4-BT0311-141189-011-008 BT0311 Homo sapiens cDNA  |
| 2819             | 13399           | 26031          | 1.50              | 3.0E-67                              | AA333763;1            | EST_HUMAN               | nW08a01.s1 NC_ CGAP_SS1 Homo sapiens cDNA clone IMAGE:1238472 3' similar to TR:O10385 C10385 PRO-POL-DUTPASE POLYPROTEIN; |
| 3446             | 16202           | 28852          | 0.88              | 3.0E-67                              | BE084410;1            | EST_HUMAN               | CE08617;1   |
| 4646             | 17380           | 30012          | 2.87              | 3.0E-67                              | AW889189;1            | EST_HUMAN               | Iw16g09.x1 NC_ CGAP_Kid11 Homo sapiens cDNA clone IMAGE:3134913 3' similar to SW:RHOP_MOUSE                               |
| 8081             | 20775           | 33905          | 1.53              | 3.0E-67                              | BF186068;1            | EST_HUMAN               | Q61085 GTP-RHO BINDING PROTEIN 1;   |
| 11224            | 23887           |                | 14.39             | 3.0E-67                              | AA927874;1            | EST_HUMAN               | am18b07.s1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:1541365 3'   |
| 183              | 12898           | 25635          | 0.81              | 2.0E-67                              | BE348354;1            | EST_HUMAN               | Iw16g09.x1 NC_ CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3183136 3' similar to WP:F23H11.9                                  |
| 825              | 13585           | 26265          | 7.3               | 2.0E-67                              | AW818465;1            | EST_HUMAN               | CE08617;  |
| 1083             | 13841           |                | 1.75              | 2.0E-67                              | AF167460;1            | NT                      | Homo sapiens double stranded RNA activated protein kinase (PKR) gene, exons 2a, 2, 3, and 4                               |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|---|---|
| 1877             | 14614           | 27325          | 1.36              | 2.0E-67                              | BE303037.1            | EST_HUMAN   | ba72d05_Y1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:2805978 5' similar to TR:084892 084892                                    |
| 1877             | 14614           | 27326          | 1.36              | 2.0E-67                              | BE303037.1            | EST_HUMAN   | ba72d05_Y1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:2805978 5' similar to TR:084892 084892                                    |
| 2235             | 14983           | 27702          | 1.3               | 2.0E-67                              | 11422948_NT           | Hom sapiens hypothetical protein dJ462023.2 (D462023.2), mRNA                                       |   |
| 2235             | 14983           | 27703          | 1.3               | 2.0E-67                              | 11422946_NT           | Hom sapiens hypothetical protein dJ462023.2 (D462023.2), mRNA                                       |   |
| 2384             | 15105           | 27845          | 1.09              | 2.0E-67                              | AF308561.1            | Hom sapiens KFRAB zinc finger protein ZFQRF mRNA, complete cds                                      |   |
| 2432             | 15103           | 27897          | 1.28              | 2.0E-67                              | 4765785_NT            | Hom sapiens developmentally regulated GTP-binding protein 1 (DREG1), mRNA                           |   |
| 3460             | 18246           | 28970          | 3.8               | 2.0E-67                              | AA825755.1            | EST_HUMAN   | zg1901.s1 Scroes testis_NIH_Homo sapiens cDNA clone IMAGE:745392.3'   |
| 3584             | 18732           | 28356          | 3.03              | 2.0E-67                              | AL163500.2            | NT  | Hom sapiens chromosome 21 segment HS21C100  |
| 5981             | 18782           | 31728          | 0.8               | 2.0E-67                              | AL049784.1            | NT  | Novel human gene mapping to chromosome 13   |
| 6034             | 18814           | 31774          | 5.54              | 2.0E-67                              | BF240758.1            | EST_HUMAN   | 601875351F1 NIH_MGC_55 Homo sapiens cDNA clone IMAGE:4091853.5  |
| 6203             | 18978           | 31958          | 2.46              | 2.0E-67                              | AB051763.1            | NT  | Hom sapiens mRNA for NADPH-cytochrome P-450 reductase, complete cds   |
| 6203             | 18978           | 31957          | 2.46              | 2.0E-67                              | AB051763.1            | NT  | Hom sapiens mRNA for NADPH-cytochrome P-450 reductase, complete cds   |
| 6545             | 18910           | 322315         | 0.78              | 2.0E-67                              | AL120542.1            | EST_HUMAN   | DKFZp761A229_T1761 (synonym: hamy2) Homo sapiens cDNA clone DKFZp761A229.5  |
| 8456             | 21148           | 34280          | 0.82              | 2.0E-67                              | AA334809.1            | EST_HUMAN   | EST38850 Embryo, 8 week Homo sapiens cDNA 5' end similar to cerebellin  |
| 8456             | 21148           | 34291          | 0.82              | 2.0E-67                              | AA334809.1            | EST_HUMAN   | EST38850 Embryo, 8 week Homo sapiens cDNA 5' end similar to cerebellin  |
| 8895             | 21588           | 34724          | 1.21              | 2.0E-67                              | AW602835.1            | EST_HUMAN   | RC4-BT0568-170100-011-007 BT0568 Homo sapiens cDNA  |
| 8895             | 21588           | 34725          | 1.21              | 2.0E-67                              | AW602836.1            | EST_HUMAN   | RC4-BT0568-170100-011-007 BT0568 Homo sapiens cDNA  |
| 9468             | 22076           | 35249          | 0.83              | 2.0E-67                              | AV731333.1            | EST_HUMAN   | AV731333 HTF_Homo sapiens cDNA clone HTFARD03.5'  |
| 9808             | 22261           | 35447          | 0.97              | 2.0E-67                              | AW283624.1            | EST_HUMAN   | UH-B12-din-e-10-0-U1_s1 NCI CGAP_Sub4 Homo sapiens cDNA clone IMAGE:2727283.3'  |
| 10870            | 23646           | 36889          | 3.72              | 2.0E-67                              | BF034485.1            | EST_HUMAN   | 601455262F1 NIH_MGC_86 Homo sapiens cDNA clone IMAGE:3859875.5  |
| 10888            | 25433           |                | -4.67             | 2.0E-67                              | 11436448_NT           | Hom sapiens KIAA0685 protein (KIAA0685), mRNA   |   |
| 11163            | 23858           | 37145          | 2.11              | 2.0E-67                              | BE285714.1            | EST_HUMAN   | 601175762F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:3531038.5  |
| 11434            | 23201           | 36433          | 1.86              | 2.0E-67                              | BF377160.1            | EST_HUMAN   | PM2-TN0103-040900-001-002 TN0103 Homo sapiens cDNA  |
| 12235            | 25231           | 30819          | 1.36              | 2.0E-67                              | 11418189_NT           | Hom sapiens thyroid autoantigen 70kD (Ku antigen) (G22P1), mRNA                                     |   |
| 12527            | 24874           | 31018          | 2.05              | 2.0E-67                              | 11417877_NT           | Hom sapiens gamma-glutamyltransferase 1 (GGT1), mRNA  |   |
| 248              | 13035           | 25695          | 8.34              | 1.0E-67                              | 4502168_NT            | Hom sapiens amyloid beta (A4) precursor protein (protease neurin-II, Alzheimer disease) (APP), mRNA |   |
| 692              | 13467           | 26114          | 1.01              | 1.0E-67                              | AA702794.1            | EST_HUMAN   | zg0104.s1 Scroes testis_NIH_Homo sapiens cDNA clone IMAGE:448015.3'   |
| 11846            | 24429           | 37770          | 8.58              | 1.0E-67                              | AI654867.1            | EST_HUMAN   | wb65c12_x1 NCI CGAP_GC8 Homo sapiens cDNA clone IMAGE:2310550.3'  |
| 2174             | 14903           | 27638          | 2.13              | 8.0E-68                              | BE870732.1            | EST_HUMAN   | 60144855F1 NIH_MGC_65 Homo sapiens cDNA clone IMAGE:3852254.5   |
| 3851             | 16801           | 29238          | 4.98              | 8.0E-68                              | AA209458.1            | EST_HUMAN   | zg8210.r1 Stratagene HNT neuron (#837233) Homo sapiens cDNA clone IMAGE:848163.5 similar to SW.SAV_SULAC Q07560 SAV PROTEIN.; |

**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF-SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 3651             | 16801           | 29239          | 4.86              | 8.0E-68                              | AA2029458.1           | EST_HUMAN               | ZF82110.17 Strategene hNT neuron (#837233) Homo sapiens cDNA clone IMAGE:648163 5' similar to SW:SAV_SULAC Q07560 SAV PROTEIN.; |
| 8000             | 20885           | 33822          | 0.55              | 7.0E-68                              | AB10505.1             | EST_HUMAN               | Wb89e03_x1 NCI_CGAP_Pr28 Homo sapiens cDNA clone IMAGE:2312860 3'   |
| 7737             | 20402           | 33818          | 0.56              | 6.0E-68                              | AB014520.1            | NT                      | Homo sapiens mRNA for KIAA0620 protein, partial cds   |
| 10347            | 22884           | 36213          | 2.47              | 6.0E-68                              | 114220888             | NT                      | Homo sapiens briefdeflin A-inhibited guanine nucleotide-exchange protein 2 (BIG2), mRNA   |
| 11087            | 23767           | 37042          | 1.61              | 6.0E-68                              | AF133901.1            | NT                      | Homo sapiens killer inhibitory receptor 2-2-1 (KIR221) and killer inhibitory receptor 2-2-2 (KIR222) genes, partial cds         |
| 12528            | 24875           |                | 1.78              | 8.0E-68                              | BE12584.1             | EST_HUMAN               | 601452067F1 NIH_MGC_86 Homo sapiens cDNA clone IMAGE:38585761 5'  |
| 12772            | 25026           | 30893          | 1.4               | 8.0E-68                              | BF310675.1            | EST_HUMAN               | DKFZp547D207_11 547 (synonym: Ifibr1) Homo sapiens cDNA clone DKFZp547D207 5'   |
| 890              | 13572           | 26233          | 5.06              | 5.0E-68                              | AF231919.1            | NT                      | Homo sapiens chromosome 21 unknown mRNA   |
| 890              | 13572           | 26234          | 5.05              | 5.0E-68                              | AF231919.1            | NT                      | Homo sapiens chromosome 21 unknown mRNA   |
| 2783             | 15488           | 28226          | 1.36              | 5.0E-68                              | AF231919.1            | NT                      | Homo sapiens chromosome 21 unknown mRNA   |
| 3144             | 15908           | 28553          | 3.23              | 5.0E-68                              | AB037882.1            | NT                      | Homo sapiens mRNA for KIAA1431 protein, partial cds   |
| 4457             | 17183           | 29819          | 0.73              | 5.0E-68                              | AL157845.1            | EST_HUMAN               | DKFZp547D207_11 547 (synonym: Ifibr1) Homo sapiens cDNA clone DKFZp547D207 5'   |
| 6627             | 18389           | 32402          | 0.61              | 5.0E-68                              | 7019512               | NT                      | Homo sapiens RAB3A interacting protein (rabin3)-like 1 (RAB3IL1), mRNA  |
| 6627             | 18389           | 32403          | 0.61              | 5.0E-68                              | 7019512               | NT                      | Homo sapiens RAB3A interacting protein (rabin3)-like 1 (RAB3IL1), mRNA  |
| 4918             | 17848           |                | 9.55              | 4.0E-68                              | P04406                | SWISSPROT               | GLYCERADEHYDE 3-PHOSPHATE DEHYDROGENASE, LIVER  |
| 5098             | 17817           | 30434          | 0.87              | 4.0E-68                              | 7549804               | NT                      | Homo sapiens deiodinase, iodothyronine, type II (DIO2), transcript variant 2, mRNA  |
| 5874             | 18861           | 31602          | 0.7               | 4.0E-68                              | AF157063.1            | NT                      | Homo sapiens sedlin (SEDL) gene, exon 4   |
| 6876             | 19892           | 32829          | 6.51              | 4.0E-68                              | 11055891              | NT                      | Homo sapiens serine carboxypeptidase 1 precursor protein (l-SSCP1), mRNA  |
| 6875             | 19892           | 32830          | 6.51              | 4.0E-68                              | 11055891              | NT                      | Homo sapiens serine carboxypeptidase 1 precursor protein (l-SSCP1), mRNA  |
| 7582             | 20250           | 33356          | 0.88              | 4.0E-68                              | 7881683               | NT                      | DKFZp547B86L0724 protein (DKFZp547B86L0724), mRNA   |
| 88338            | 21629           | 34771          | 6.05              | 4.0E-68                              | D834779.2             | NT                      | Homo sapiens mRNA for KIAA0145 protein, partial cds   |
| 8938             | 21628           | 34772          | 5.05              | 4.0E-68                              | D834779.2             | NT                      | Homo sapiens mRNA for KIAA0145 protein, partial cds   |
| 9077             | 21768           | 34829          | 3.08              | 4.0E-68                              | AB040918.1            | NT                      | Homo sapiens mRNA for KIAA1485 protein, partial cds   |
| 10925            | 22805           | 36854          | 1.68              | 4.0E-68                              | 4506282               | NT                      | Homo sapiens protein tyrosine phosphatase type IVA, member 1 (PTP4A1), mRNA   |
| 10925            | 22805           | 36855          | 1.68              | 4.0E-68                              | 4506282               | NT                      | Homo sapiens protein tyrosine phosphatase type IVA, member 1 (PTP4A1), mRNA   |
| 11115            | 23785           | 37061          | 1.28              | 4.0E-68                              | AB040948.1            | NT                      | Homo sapiens mRNA for KIAA1615 protein, partial cds   |
| 11828            | 24412           | 37749          | 1.39              | 4.0E-68                              | AJ251760.1            | NT                      | Homo sapiens NE3P55, GNAS1 antisense (partial) and X antis (partial) genes  |
| 11884            | 24448           | 37789          | 12.15             | 4.0E-68                              | 4758267               | NT                      | Homo sapiens echinoderm microtubule-associated protein-like (EMAPI), mRNA   |
| 11884            | 24448           | 37790          | 12.15             | 4.0E-68                              | 4758267               | NT                      | Homo sapiens echinoderm microtubule-associated protein-like (EMAPI), mRNA   |
| 3653             | 18406           | 28045          | 5.37              | 3.0E-68                              | AF236082.1            | NT                      | Mus musculus G-protein coupled receptor GPR73 (Cpr73) mRNA, complete cds  |
| 8357             | 20428           |                | 5.82              | 3.0E-68                              | AI342323.1            | EST_HUMAN               | q338h02x1 Soares_fetal_lung_NbHL18W Homo sapiens cDNA clone IMAGE:1850291 3' similar to contains THR 22 THR repetitive element; |

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|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 10389            | 22045           | 36281          | 1.23              | 3.0E-68                              | F28784.1              | EST_HUMAN               | HSPD18178 HM3 Homo sapiens cDNA clone s3000223D09   |
| 2865             | 17883           |                | 15.31             | 2.0E-68                              | D00522.1              | NT                      | Cribellula longicaudata mRNA for EF-1 alpha, complete cds                                 |
| 4833             | 17368           | 30004          | 1.38              | 2.0E-68                              | AB008681.1            | NT                      | Homo sapiens gene for activin receptor type IB, complete cds                              |
| 6778             | 18520           |                | 9.54              | 2.0E-68                              | R46098.1              | EST_HUMAN               | 363804.s1 Soares infant brain 1NIB Homo sapiens cDNA clone IMAGE:34898 3'                 |
| 6983             | 19445           | 32462          | 5.38              | 2.0E-68                              | BFC05316.1            | EST_HUMAN               | 601458514F1 NIH_MGC_88 Homo sapiens cDNA clone IMAGE:3862034 5'                           |
| 7270             | 19854           | 33030          | 0.73              | 2.0E-68                              | BF538745.1            | EST_HUMAN               | IL3-CT0534-180900-273-A01 CT0534 Homo sapiens cDNA  |
| 8848             | 21539           | 34685          | 0.63              | 2.0E-68                              | Q068589               | SWISSPROT               | FORMIN 4 (LIMB DEFORMITY PROTEIN)   |
| 10505            | 22151           | 36376          | 0.75              | 2.0E-68                              | N76483.1              | EST_HUMAN               | 2778d07..71 Soares_multiple_solar_cots_2NbH-MSP Homo sapiens cDNA clone IMAGE:289165 5'   |
| 11210            | 23873           | 37160          | 1.68              | 2.0E-68                              | BFC30594.1            | EST_HUMAN               | QV0-BT0074-130688-014-g04 BT0074 Homo sapiens cDNA  |
| 77               | 12903           | 25641          | 1                 | 1.0E-68                              | 48052222              | NT                      | Homo sapiens meningioma (disrupted in balanced translocation) 1 (MN1), mRNA               |
| 288              | 13095           | 25737          | 13                | 1.0E-68                              | AW818405.1            | EST_HUMAN               | QV4-ST0234-181188-037-f05 ST0234 Homo sapiens cDNA  |
| 2249             | 14977           | 27716          | 1.03              | 1.0E-68                              | AB011149.1            | NT                      | Homo sapiens mRNA for KIAA0577 protein, complete cds                                      |
| 2249             | 14977           | 27716          | 1.03              | 1.0E-68                              | AB011149.1            | NT                      | Homo sapiens mRNA for KIAA0577 protein, complete cds                                      |
| 3991             | 16739           | 28373          | 0.65              | 1.0E-68                              | BE286032.1            | EST_HUMAN               | 601177002F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:3532344 5'                           |
| 4969             | 17694           | 30302          | 0.92              | 1.0E-68                              | AA897343.1            | EST_HUMAN               | ak47g12.s1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:1460518 3'                   |
| 5239             | 18045           | 30874          | 1.37              | 1.0E-68                              | 76822349              | NT                      | Homo sapiens cell recognition molecule Caspr2 (KIAA0889), mRNA                            |
| 7576             | 20245           | 33350          | 1                 | 1.0E-68                              | 11436716              | NT                      | Homo sapiens sentrin/SUMO-specific protease (SENIP1), mRNA                                |
| 10373            | 23019           | 36235          | 0.6               | 1.0E-68                              | AA429538.1            | EST_HUMAN               | 2w74d02J1 Soares_tests_NfT Homo sapiens cDNA clone IMAGE:781923 5'                        |
| 10758            | 23441           | 36885          | 1.85              | 1.0E-68                              | 11418869              | NT                      | Homo sapiens phosphodiesterase 7B (PDE7B), mRNA   |
| 10768            | 23441           | 36886          | 1.85              | 1.0E-68                              | 11418869              | NT                      | Homo sapiens phosphodiesterase 7B (PDE7B), mRNA   |
| 10819            | 23502           | 36741          | 3.5               | 1.0E-68                              | L76416.1              | NT                      | Homo sapiens Mif2 suppressor (HSN/T3) mRNA, complete cds                                  |
| 11148            | 23816           | 37098          | 1.71              | 1.0E-68                              | 11433277              | NT                      | Homo sapiens myosin IC (MYO1C), mRNA  |
| 11226            | 23889           | 37176          | 1.62              | 1.0E-68                              | AFO43129.1            | NT                      | Homo sapiens Interleukin-7 receptor precursor (IL7R) gene, exons 7 and 8 and complete cds |
| 11270            | 23831           | 37223          | 1.26              | 1.0E-68                              | U50319.1              | NT                      | Human protein kinase C substrate 80K-H (PRKCSH) gene, exon 4-5                            |
| 11270            | 23831           | 37224          | 1.26              | 1.0E-68                              | U50319.1              | NT                      | Human protein kinase C substrate 80K-H (PRKCSH) gene, exon 4-5                            |
| 11688            | 24281           | 37584          | 1.48              | 1.0E-68                              | 11418421              | NT                      | Homo sapiens CGI-78 protein (LOC51632), mRNA  |
| 11686            | 24281           | 37585          | 1.48              | 1.0E-68                              | 11418421              | NT                      | Homo sapiens CGI-78 protein (LOC51632), mRNA  |
| 12511            | 12803           | 25541          | 2.86              | 1.0E-68                              | 4505222               | NT                      | Homo sapiens meningioma (disrupted in balanced translocation) 1 (MN1), mRNA               |
| 12719            | 25322           | 30712          | 2.11              | 1.0E-68                              | 11430460              | NT                      | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA                       |
| 19               | 12847           | 25480          | 1.18              | 9.0E-69                              | 5031976               | NT                      | Homo sapiens pre-B-cell colony-enhancing factor (PBEEF) mRNA                              |
| 18               | 12847           | 25481          | 1.18              | 9.0E-69                              | 5031976               | NT                      | Homo sapiens pre-B-cell colony-enhancing factor (PBEEF) mRNA                              |
| 1006             | 13768           | 28426          | 1.41              | 9.0E-69                              | 5031980               | NT                      | Homo sapiens 26S proteasome-associated paf1 homolog (POH1) mRNA                           |
| 2275             | 15001           | 27740          | 1.15              | 9.0E-69                              | 4758279               | NT                      | Homo sapiens EphA4 (IEPHA4) mRNA  |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 2275             | 16001           | 27741          | 1.15              | 9.0E-69                              | 4758279               | NT                      | Homo sapiens EphA4 (EPHA4) mRNA   |
| 4109             | 16852           | 29479          | 0.71              | 9.0E-69                              | 4757867               | NT                      | Homo sapiens vraf murine sarcoma viral oncogene homolog B1 (BRAF) mRNA  |
| 10805            | 23488           |                | 6.5               | 9.0E-69                              | AU117241.1            | EST_HUMAN               | AU117241 HEMBA1 Homo sapiens cDNA clone HEMBA10006685 5'  |
| 3381             | 16140           |                | 1.08              | 8.0E-69                              | AJ237744.1            | NT                      | Homo sapiens RIBLIR gene (partial), exon 12   |
| 6259             | 19033           | 32008          | 6.49              | 7.0E-69                              | 8868912               | NT                      | Homo sapiens actin-related protein 3-beta (ARP3BETA), mRNA  |
| 7762             | 20458           | 33581          | 9.09              | 6.0E-69                              | AJ192784.1            | EST_HUMAN               | qes2h01.x1 Soares_fetal_lung_NIH-19W Homo sapiens cDNA clone IMAGE:1743601 3' similar to dbL115686 60S RIBOSOMAL PROTEIN L18 (HUMAN);         |
| 7762             | 20458           | 33582          | 9.09              | 6.0E-69                              | AJ192784.1            | EST_HUMAN               | qes2h01.x1 Soares_fetal_lung_NIH-19W Homo sapiens cDNA clone IMAGE:1743601 3' similar to dbL115686 60S RIBOSOMAL PROTEIN L18 (HUMAN);         |
| 8873             | 21584           | 34708          | 1.01              | 5.0E-69                              | AA828039.1            | EST_HUMAN               | odf08d03.s1 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:1372800 3'  |
| 507              | 13281           |                | 1.76              | 4.0E-69                              | AJ873630.1            | EST_HUMAN               | wm26h11.x1 NCI_CGAP_U4 Homo sapiens cDNA clone IMAGE:243725 3'  |
| 5674             | 25073           | 31384          | 1.42              | 4.0E-69                              | BE561063.1            | EST_HUMAN               | 601344706F1 NIH_MGC_8 Homo sapiens cDNA clone IMAGE:3577841 5'  |
| 6733             | 18546           | 31467          | 5.28              | 4.0E-69                              | AJ764973.1            | EST_HUMAN               | wh57b06.x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:2384810 3' similar to TRQ557137   |
| 6531             | 19297           | 32301          | 2.71              | 4.0E-69                              | 4557732               | NT                      | O55137 ACYL-COA THIOESTERASE ;  |
| 6531             | 19297           | 32302          | 2.71              | 4.0E-69                              | 4557732               | NT                      | Homo sapiens latent transforming growth factor beta binding protein 2 (LTBP2) mRNA  |
| 8872             | 21604           | 34651          | 0.52              | 4.0E-69                              | AU119834.1            | EST_HUMAN               | Homo sapiens latent transforming growth factor beta binding protein 2 (LTBP2) mRNA  |
| 377              | 13202           | 25848          | 3.69              | 3.0E-69                              | BE258012.1            | EST_HUMAN               | AU119634 HEMBA1 Homo sapiens cDNA clone IMAGE:1006283 5'  |
| 598              | 13378           | 26005          | 2.32              | 3.0E-69                              | AF221712.1            | NT                      | 601110371F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:39315362 5'  |
|                  |                 |                |                   |                                      |                       |                         | Homo sapiens Smad- and Olf-interacting zinc finger protein mRNA, partial cds  |
| 1548             | 14294           |                | 3.19              | 3.0E-69                              | TB0514.1              | EST_HUMAN               | y08ad02.r1 Soares_infant brain 1N1B Homo sapiens cDNA clone IMAGE:244860 5' similar to SP_A48898  |
| 5183             | 17894           | 37787          | 3.64              | 3.0E-69                              | 11418185              | NT                      | A48836 SPEGF III-EGF REPEAT-CONTAINING FIBROPELLIN-LIKE PROTEIN - SEA URCHIN ;  |
|                  |                 |                |                   |                                      |                       |                         | Homo sapiens aconitase2, mitochondrial (ACO2), mRNA   |
| 6705             | 19820           |                | 0.67              | 3.0E-69                              | AJ277557.1            | NT                      | Homo sapiens dNT-2 gene for mitochondrial 5'(3')-deoxyribonucleotidase (dNT-2 gene), exons 1-5  |
| 6759             | 17928           | 30563          | 0.74              | 3.0E-69                              | -                     | 11425788                | Homo sapiens sperm surface protein (TSS), mRNA  |
| 7272             | 19958           | 33032          | 0.68              | 3.0E-69                              | AF086703.1            | NT                      | Homo sapiens short chain L-3-hydroxyacyl-CoA dehydrogenase precursor (HADHSC) gene, nuclear gene encoding mitochondrial protein, complete cds |
| 7320             | 20003           | 33082          | 1.83              | 3.0E-69                              | U52351.1              | NT                      | Homo sapiens arm-repeat protein NP2AP/heurnungin (CTNNND2) mRNA, partial cds  |
| 7451             | 20127           | 33219          | 8.32              | 3.0E-69                              | AF268075.1            | NT                      | Homo sapiens TRAF8-binding protein TEBP mRNA, complete cds  |
| 8270             | 20964           | 34106          | 0.88              | 3.0E-69                              | AW138846.1            | EST_HUMAN               | U1-H-B11-sew-g-01-0-JI_s1 NCI_CGAP_Sub3 Homo sapiens cDNA clone IMAGE:2715840 3'  |
| 8886             | 21358           |                | 0.85              | 3.0E-69                              | AA376339.1            | EST_HUMAN               | EST88807 HSC172 cells II Homo sapiens cDNA 5' end similar to ribosomal protein S18  |
| 8313             | 21680           | 35152          | 1.01              | 3.0E-69                              | XJ3223.1              | NT                      | H sapiens mRNA for N-acetylglucosamine-(beta 1-4)-galactosyltransferase   |

Table 4  
Single Exon Probes Expressed in Brain

| Probe Seq ID No: | Exon Seq ID No: | ORF Seq ID No: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|--|---|
| 6433 22111       | 36286           | 2.03           | 3.0E-69           | X06233.1                         | NT                    |  | Human mRNA for calcium-binding protein in macrophages (MRP-14) macrophage migration inhibitory factor (MIF)-related protein |
| 9729 22380       | 35582           | 0.75           | 3.0E-69           | 5730036 NT                       |                       |  | Homo sapiens SEC10 (S. cerevisiae)-like 1 (SEC10L1), mRNA   |
| 105338 23235     | 36463           | 1.44           | 3.0E-69           | 11432120 NT                      |                       |  | Homo sapiens ribosomal protein S16a (RPS15A), mRNA  |
| 10745 23432      |                 | 7.81           | 3.0E-69           | AA376899.1                       | EST_HUMAN             | EST8860 HSC172 cells II Homo sapiens cDNA 5' end similar to similar to ribosomal protein S18   |   |
| 12024 24552      |                 | 5.17           | 3.0E-69           | 114419157 NT                     |                       |  | Homo sapiens HGCB_2 protein (HGCB_2), mRNA  |
| 128 13180        | 25827           | 1.64           | 2.0E-69           | AF160252.1                       | NT                    |  | Homo sapiens KIAA0563 protein gene, complete cds; and alpha/beta protein gene, partial cds                                  |
| 128 13180        | 25829           | 1.64           | 2.0E-69           | AF160252.1                       | NT                    |  | Homo sapiens KIAA0563 protein gene, complete cds; and alpha/beta protein gene, partial cds                                  |
| 395 13180        | 25827           | 10.33          | 2.0E-69           | AF160252.1                       | NT                    |  | Homo sapiens KIAA0553 protein gene, complete cds; and alpha/beta protein gene, partial cds                                  |
| 395 13180        | 25829           | 10.33          | 2.0E-69           | AF160252.1                       | NT                    |  | Homo sapiens KIAA0553 protein gene, complete cds; and alpha/beta protein gene, partial cds                                  |
| 1878 14616       | 27327           | 2.08           | 2.0E-69           | BE257857.1                       | EST_HUMAN             | 601109444F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:33500174 5'   |   |
| 2848 15818       |                 | 3.16           | 2.0E-69           | AA431157.1                       | EST_HUMAN             | 2W71g02.11 Soares testis_NHT Homo sapiens cDNA clone IMAGE:781682 5'   |   |
| 8452 21144       | 34284           | 1.08           | 2.0E-69           | AA114270.1                       | EST_HUMAN             | Zm2g01.1f Strategene pancreas (#637208) Homo sapiens cDNA clone IMAGE:527088 5'  |   |
| 1698 14441       | 27139           | 1.98           | 1.0E-69           | AF053768.1                       | NT                    | Rettus norvegicus brain specific contactin-binding protein CBF90 mRNA, partial cds   |   |
| 4962 17687       |                 | 0.74           | 1.0E-69           | BE409094.1                       | EST_HUMAN             | 801301284F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3635781 5'  |   |
| 5859 18741       | 31700           | 0.87           | 1.0E-69           | BE902501.1                       | EST_HUMAN             | 801675788F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3958532 5'  |   |
| 5959 18741       | 31701           | 0.87           | 1.0E-69           | BE902501.1                       | EST_HUMAN             | 801675788F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3958532 5'  |   |
| 6508 16273       | 32274           | 4.37           | 1.0E-69           | AW393989.1                       | EST_HUMAN             | QV0-TT0010-031198-045-007 TT0010 Homo sapiens cDNA   |   |
| 6721 18838       | 32679           | 1.28           | 1.0E-69           | 76922283 NT                      |                       | Homo sapiens KIAA0716 gene product (KIAA0716), mRNA  |   |
| 6721 18838       | 32680           | 1.28           | 1.0E-69           | 76922283 NT                      |                       | Homo sapiens KIAA0716 gene product (KIAA0716), mRNA  |   |
| 6737 18571       | 32893           | 3.01           | 1.0E-69           | AB032973.1                       | NT                    | Homo sapiens mRNA for KIAA1147 protein, partial cds  |   |
| 6737 18571       | 32604           | 3.01           | 1.0E-69           | AB032973.1                       | NT                    | Homo sapiens mRNA for KIAA1147 protein, partial cds  |   |
| 6782 18528       | 32554           | 1.14           | 1.0E-69           | BE531007.1                       | EST_HUMAN             | 601278532F1 NIH_MGC_39 Homo sapiens cDNA clone IMAGE:3610814 5'  |   |
| 6782 18528       | 32555           | 1.14           | 1.0E-69           | BE531007.1                       | EST_HUMAN             | 601278532F1 NIH_MGC_39 Homo sapiens cDNA clone IMAGE:3610814 5'  |   |
| 10073 22721      | 35837           | 4.91           | 1.0E-69           | BE245070.1                       | EST_HUMAN             | TCBAP1IE2678 Pediatric pre-B cell acute lymphoblastic leukemia Baylor+HGSC project=TCBAP1IE2678  |   |
| 10073 22721      | 35933           | 4.91           | 1.0E-69           | BE245070.1                       | EST_HUMAN             | TCBAP1IE2678 Pediatric pre-B cell acute lymphoblastic leukemia Baylor+HGSC project=TCBAP1IE2678  |   |
| 10168 22816      | 36034           | 1.38           | 1.0E-69           | AB014607.1                       | NT                    | Homo sapiens mRNA for KIAA0707 protein, partial cds  |   |
| 10314 22861      | 36177           | 0.57           | 1.0E-69           | BF528429.1                       | EST_HUMAN             | 602043782F1 NC1 CGAP_Bm87 Homo sapiens cDNA clone IMAGE:4181325 5'   |   |
| 10782 23485      |                 | 10.62          | 1.0E-69           | 4804978 NT                       |                       | Homo sapiens keratin 8 (KRT8) mRNA   |   |
| 11864 24512      | 37281           | 1.74           | 1.0E-69           | BF125887.1                       | EST_HUMAN             | 601762802F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:4025785 5'  |   |
| 12368 24768      |                 | 4.45           | 1.0E-69           | AI809694.1                       | EST_HUMAN             | W84d08_x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:23860390 3' similar to contains Alu repetitive element; contains element MIR repetitive element; |   |

Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 2331             | 15591           | 27791          | 2.08              | 8.0E-70                              | AA230303.1            | EST_HUMAN               | nc13612.11 NCI_CGAP_P1 Homo sapiens cDNA clone IMAGE:1008023  |
| 4340             | 17079           | 28708          | 1.83              | 8.0E-70                              | L77598.1              | NT                      | Homo sapiens DGS-I mRNA, 3' end   |
| 1808             | 14546           | 27260          | 1.01              | 7.0E-70                              | A1497807.1            | EST_HUMAN               | tm38901.x1 NCI_CGAP_Bm25 Homo sapiens cDNA clone IMAGE:21663053   |
| 1808             | 14546           | 27261          | 1.01              | 7.0E-70                              | A1497807.1            | EST_HUMAN               | tm38901.x1 NCI_CGAP_Bm25 Homo sapiens cDNA clone IMAGE:21663053   |
| 1923             | 14880           | 27371          | 1.88              | 7.0E-70                              | AA282985.1            | EST_HUMAN               | z16104.11 NCI_CGAP_GCB11 Homo sapiens cDNA clone IMAGE:713239   |
| 2056             | 14788           |                | 2.92              | 7.0E-70                              | 5031668. NT           |                         | Homo sapiens tumor suppressor deleted in oral cancer-related 1 (DOC-IR) mRNA                              |
| 4199             | 16940           | 28566          | 3.67              | 7.0E-70                              | 4757723               | NT                      | Homo sapiens adenylylate cyclase 3 (ADCY3) mRNA   |
| 5395             | 18195           | 30888          | 4.88              | 7.0E-70                              | AB032269.1            | NT                      | Homo sapiens MIST mRNA, partial cds   |
| 5395             | 18195           | 30889          | 4.88              | 7.0E-70                              | AB032269.1            | NT                      | Homo sapiens MIST mRNA, partial cds   |
| 6826             | 18487           | 32509          | 2.16              | 7.0E-70                              | AJ000052.1            | NT                      | Homo sapiens gene encoding splicing factor SF1, exons 2-8   |
| 8330             | 21023           | 34159          | 2.2               | 7.0E-70                              | AB037716.1            | NT                      | Homo sapiens mRNA for KIAA1294 protein, partial cds   |
| 8330             | 21023           | 34160          | 2.2               | 7.0E-70                              | AB037716.1            | NT                      | Homo sapiens mRNA for KIAA1294 protein, partial cds   |
| 8622             | 21314           | 34457          | 3.58              | 7.0E-70                              | M74098.1              | NT                      | Human displacement protein (CCAA1) mRNA   |
| 8622             | 21314           | 34458          | 3.58              | 7.0E-70                              | M74098.1              | NT                      | Human displacement protein (CCAA1) mRNA   |
| 9055             | 21744           | 34902          | 3.8               | 7.0E-70                              | X59841.1              | NT                      | Human PBX3 mRNA   |
| 9055             | 21744           | 34903          | 3.8               | 7.0E-70                              | X59841.1              | NT                      | Human PBX3 mRNA   |
| 9335             | 20408           | 33522          | 3.43              | 7.0E-70                              | AF163715.1            | NT                      | Human sphingolipid scramblase 1 gene, exon 1 and 5' flanking region                                       |
| 9361             | 20431           | 33551          | 2.69              | 7.0E-70                              | 11525984. NT          |                         | Homo sapiens karyopherin beta 2b, transportin (TRN2), mRNA  |
| 9361             | 20431           | 33552          | 2.69              | 7.0E-70                              | 11525984. NT          |                         | Homo sapiens karyopherin beta 2b, transportin (TRN2), mRNA  |
| 9556             | 22209           | 35394          | 0.57              | 7.0E-70                              | 4557624               | NT                      | Homo sapiens glutamate-cysteine ligase (gamma-glutamylcysteine synthetase), catalytic (72 kD) (GCLC) mRNA |
| 10196            | 22844           | 38058          | 0.62              | 7.0E-70                              | AB036426.1            | NT                      | Homo sapiens NDST4 mRNA for N-deacetylase/N-sulfotransfase 4, complete cds                                |
| 10196            | 22844           | 38059          | 0.62              | 7.0E-70                              | AB036428.1            | NT                      | Homo sapiens NDST4 mRNA for N-deacetylase/N-sulfotransfase 4, complete cds                                |
| 11010            | 23982           | 38941          | 1.54              | 7.0E-70                              | 11429885              | NT                      | Homo sapiens spastic paraplegia 4 (autosomal dominant spasticity) (SPG4), mRNA                            |
| 11010            | 23982           | 38942          | 1.54              | 7.0E-70                              | 11429885              | NT                      | Homo sapiens spastic paraplegia 4 (autosomal dominant spasticity) (SPG4), mRNA                            |
| 11597            | 24198           | 37516          | 1.65              | 7.0E-70                              | 11526319              | NT                      | Homo sapiens H1R (histone cell cycle regulation defective, S. cerevisiae) homolog A (HIRA), mRNA          |
| 11597            | 24198           | 37516          | 1.65              | 7.0E-70                              | 11628319              | NT                      | Homo sapiens H1R (histone cell cycle regulation defective, S. cerevisiae) homolog A (HIRA), mRNA          |
| 851              | 13621           | 26291          | 1.77              | 8.0E-70                              | 4502166               | NT                      | Homo sapiens amyloid beta (A4) precursor protein (protease nexin-II, Alzheimer disease) (APP), mRNA       |
| 2133             | 14863           | 27583          | 1.21              | 8.0E-70                              | MS0838.1              | NT                      | Human Ku (p70/p80) subunit mRNA, complete cds   |
| 2513             | 15230           | 27970          | 1.22              | 8.0E-70                              | 8922889               | NT                      | Homo sapiens C1P-N-acetylneuraminate acid synthase (LOC55807), mRNA                                       |
| 2555             | 15598           | 28003          | 2.18              | 5.0E-70                              | 7682307               | NT                      | Homo sapiens KIAA0782 gene product (KIAA0782), mRNA   |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--------------------|
| 2555             | 16598           | 28004          | 2.18              | 5.0E-70                              | 7682307 NT            | [Homo sapiens KIAA0792 gene product (KIAA0792), mRNA   |                    |
| 11874            | 24519           |                | 2.75              | 5.0E-70                              | BE168034.1            | MR3-HT0487-150200-115-a06 HT0487 Homo sapiens cDNA EST_HUMAN   |                    |
| 66556            | 18417           | 32431          | 1.03              | 4.0E-70                              | T06037.1              | EST_HUMAN EST03283 Fetal brain, Stratagene (cat#6336206) Homo sapiens cDNA clone HFBDN26   |                    |
| 66986            | 18613           | 32853          | 1.78              | 4.0E-70                              | AW783228.1            | EST_HUMAN CM4-UM0003-010300-105-q08 UM0003 Homo sapiens cDNA   |                    |
| 66986            | 18613           | 32854          | 1.78              | 4.0E-70                              | AW783226.1            | EST_HUMAN CM4-UM0003-010300-105-q08 UM0003 Homo sapiens cDNA   |                    |
| 1584             | 14330           | 27016          | 1.23              | 3.0E-70                              | BE071788.1            | EST_HUMAN RC0-BT0522-071289-011-a12 BT0522 Homo sapiens cDNA   |                    |
| 1584             | 14330           | 27017          | 1.23              | 3.0E-70                              | BE071788.1            | EST_HUMAN RC0-BT0522-071289-011-a12 BT0522 Homo sapiens cDNA   |                    |
| 5532             | 18330           | 31234          | 0.85              | 3.0E-70                              | 11430988 NT           | Homo sapiens plakophilin 4 (PKP4), mRNA  |                    |
| 6632             | 18330           | 31235          | 0.85              | 3.0E-70                              | 11430988 NT           | Homo sapiens plakophilin 4 (PKP4), mRNA  |                    |
| 5855             | 18642           | 31581          | 1.8               | 3.0E-70                              | A1831876.1            | EST_HUMAN w180cd03_x1 NCI_CGAP_CLI_1 Homo sapiens cDNA clone IMAGE-2388005 3'  |                    |
| 6290             | 18053           | 32031          | 1.65              | 3.0E-70                              | BF885233.1            | EST_HUMAN 602141561F1_NIH_MGC_46 Homo sapiens cDNA clone IMAGE-4302806 5'  |                    |
| 6290             | 18053           | 32032          | 1.65              | 3.0E-70                              | BF885233.1            | EST_HUMAN 602141561F1_NIH_MGC_46 Homo sapiens cDNA clone IMAGE-4302806 5'  |                    |
| 10008            | 22653           | 35859          | 0.68              | 3.0E-70                              | BE502873.1            | EST_HUMAN hz811n02_x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE-3214419 3'   |                    |
| 37               | 12865           | 25484          | 1.2               | 2.0E-70                              | AF012872.1            | NT Homo sapiens phosphatidylinositol 4-kinase 230 (PI4K230) mRNA, complete cds   |                    |
| 673              | 13449           | 26089          | 14.09             | 2.0E-70                              | N42161.1              | EST_HUMAN y07a10.11 Soares melanocyte 2NBHM Homo sapiens cDNA clone IMAGE-270522 5' similar to SW_D3H1_RAT_P28268 3-HYDROXYISOBUTYRATE DEHYDROGENASE PRECURSOR ; |                    |
| 673              | 13449           | 26090          | 14.09             | 2.0E-70                              | N42161.1              | EST_HUMAN y07a10.11 Soares melanocyte 2NBHM Homo sapiens cDNA clone IMAGE-270522 5' similar to SW_D3H1_RAT_P28268 3-HYDROXYISOBUTYRATE DEHYDROGENASE PRECURSOR ; |                    |
| 638              | 13464           | 26113          | 1.7               | 2.0E-70                              | AI246898.1            | cp5f101.x1 NCI_CGAP_Pari Homo sapiens cDNA clone IMAGE-2004913 3'  |                    |
| 1000             | 13780           | 28421          | 1.58              | 2.0E-70                              | 68223669 NT           | Homo sapiens hypothetical protein FLJ20758 (FLJ20758), mRNA  |                    |
| 1161             | 13915           | 28578          | 3.05              | 2.0E-70                              | 7661983 NT            | Homo sapiens KIAA0183 gene product (KIAA0183), mRNA  |                    |
| 1161             | 13915           | 28579          | 3.05              | 2.0E-70                              | 7661983 NT            | Homo sapiens KIAA0183 gene product (KIAA0183), mRNA  |                    |
| 1738             | 14473           | 27177          | 1.56              | 2.0E-70                              | AL163202.2            | NT Homo sapiens chromosome 21 segment HS21C002   |                    |
| 2318             | 15043           |                | 5.32              | 2.0E-70                              | AA054010.1            | EST_HUMAN z148g04.11 Soares retina N264-IR Homo sapiens cDNA clone IMAGE-380214 5' similar to SW:GAG_HTL1A   |                    |
| 3615             | 16368           | 28011          | 0.78              | 2.0E-70                              | H37988.1              | EST_HUMAN p03345 GAG POLYPROTEIN ;   |                    |
| 40227            | 16772           | 29404          | 5.08              | 2.0E-70                              | M69181.1              | NT Human nonmuscle myosin heavy chain-B (MYH10) mRNA, partial cds  |                    |
| 5425             | 18227           | 30839          | 8.7               | 2.0E-70                              | X72662.1              | H.sapiens gene for schwannomin (CS8)   |                    |
| 5425             | 18227           | 30840          | 8.7               | 2.0E-70                              | X72662.1              | H.sapiens gene for schwannomin (CS8)   |                    |
| 6111             | 18898           | 31857          | 1.27              | 2.0E-70                              | AF310105.1            | Homo sapiens NALP1 mRNA, complete cds  |                    |
| 65358            | 18303           | 32307          | 1.75              | 2.0E-70                              | D12625.1              | Human mRNA for NF1 protein isoform (neurofibromin isoform), complete cds   |                    |
| 65659            | 18333           | 32342          | 12.14             | 2.0E-70                              | AF123074.1            | Homo sapiens cytoplasmic dynein intermediate chain 1 mRNA, complete cds  |                    |
| 65659            | 18333           | 32343          | 12.14             | 2.0E-70                              | AF123074.1            | NT Homo sapiens cytoplasmic dynein intermediate chain 1 mRNA, complete cds   |                    |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|--|--|
| 6897             | 17973           | 30530          | 1.68              | 2.0E-70                          | 11422642              | NT   | Homo sapiens stathrintransferase 6 (N-acetylacosaminide alpha 2,3-sialyltransferase) (SIA16), mRNA   |
| 7303             | 18986           | 33062          | 0.76              | 2.0E-70                          | AF288207.1            | NT   | Homo sapiens cysteiny-lfRNA synthetase mRNA, complete cds, alternatively spliced   |
| 7819             | 20514           | 33639          | 9.02              | 2.0E-70                          | M21741.1              | NT   | Human guanine nucleotide-binding protein alpha-subunit gene (G-e-alpha), exons 4 and 5   |
| 8121             | 20815           | 33951          | 0.5               | 2.0E-70                          | 11423589              | NT   | Homo sapiens amyo-1,6-glucosidase, 4-alpha-glucanotransferase (glycogen debranching enzyme, glycogen storage disease type III) (AGL), mRNA |
| 8558             | 21250           | 0.8            | 2.0E-70           | H47869.1                         | EST_HUMAN             | Yp78g02.r1 Soares_fetal_liver_spleen_1NFLS_Homo_sapiens cDNA clone IMAGE:183682 5' |  |
| 9087             | 21756           | 34918          | 0.95              | 2.0E-70                          | 11526355              | NT   | Homo sapiens dynactin p62 subunit (LOC51184), mRNA   |
| 10038            | 22686           | 35804          | 1.48              | 2.0E-70                          | AF123303.1            | NT   | Homo sapiens calcium-binding transporter mRNA, partial cds   |
| 10500            | 23146           | 36373          | 0.47              | 2.0E-70                          | AB033042.1            | NT   | Homo sapiens mRNA for KIAA1216 protein, partial cds  |
| 11005            | 23677           | 36933          | 3.75              | 2.0E-70                          | 8923420               | NT   | Homo sapiens hypothetical protein FLJ20450 (FLJ20450), mRNA  |
| 11005            | 23677           | 36934          | 3.75              | 2.0E-70                          | 8923420               | NT   | Homo sapiens hypothetical protein FLJ20450 (FLJ20450), mRNA  |
| 11639            | 24236           | 37559          | 7.32              | 2.0E-70                          | 4503520               | NT   | Homo sapiens eukaryotic translation initiation factor 3, subunit 6 (48KD) (EIF3S6), mRNA   |
| 12363            | 24767           | 31058          | 3.06              | 2.0E-70                          | 11450460              | NT   | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA  |
| 12363            | 24757           | 31059          | 3.06              | 2.0E-70                          | 11450460              | NT   | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA  |
| 3388             | 16147           |                | 2.63              | 1.0E-70                          | 4507476               | NT   | Homo sapiens transglutaminase 3 (E polypeptide, protein-glutamine-gamma-glutamyltransferase) (TGm3)  |
| 9180             | 21850           |                | 0.69              | 1.0E-70                          | W85795.1              | EST_HUMAN  | 2f65505.r1 Soares_fetal_liver_spleen_1NFLS_S1 Homo_sapiens cDNA clone IMAGE:416024 5'  |
| 9688             | 22349           |                | 0.65              | 1.0E-70                          | AA442282.1            | EST_HUMAN  | 2f546d3.r1 Soares_testis_NHT_Homo_sapiens cDNA clone IMAGE:757444 5'   |
| 10852            | 23532           | 36777          | 7.13              | 1.0E-70                          | AV738538.1            | EST_HUMAN  | AV738538 CB Homo_sapiens cDNA clone CBLGB10 5'   |
| 5854             | 18841           | 31579          | 7.05              | 9.0E-71                          | AI143870.1            | EST_HUMAN  | 0f04f01.x1 Soares_testis_NHT_Homo_sapiens cDNA clone IMAGE:1738009 3' similar to TR:O14045   |
| 5854             | 18841           | 31680          | 7.05              | 9.0E-71                          | AI143870.1            | EST_HUMAN  | O14045 PHOSPHOTRANSFERASE :  |
| 6932             | 19668           | 32714          | 2.23              | 9.0E-71                          | AI654903.1            | EST_HUMAN  | Wb62605.x1 NCI CGAP GC6 Homo_sapiens cDNA clone IMAGE:2309288 3' similar to TR:O14045  |
| 11508            | 19668           | 32714          | 4.79              | 9.0E-71                          | AI654903.1            | EST_HUMAN  | CDU2, CDU1, TODD, TCDB, TCDE, TCD, CDD1, CDD2, CDD3, AND CDD4 GENES. ;   |
| 8968             | 21658           |                | 5.03              | 8.0E-71                          | AA171451.1            | EST_HUMAN  | 2p21d11.1 Strategene neuroepithelium (#831231) Homo_sapiens cDNA clone IMAGE:610101 5' similar to TR:G1143061 STRAIN XA34 POL ;            |
| 7275             | 19859           | 33036          | 8.9               | 7.0E-71                          | AA442230.1            | EST_HUMAN  | 2x60108.r1 Soares_testis_NHT_Homo_sapiens cDNA clone IMAGE:758075 5'   |
| 8578             | 21270           | 34408          | 1.02              | 7.0E-71                          | AA705457.1            | EST_HUMAN  | 2f91a06.s1 Soares_fetal_liver_spleen_1NFLS_S1 Homo_sapiens cDNA clone IMAGE:462226 3'  |
| 11302            | 23981           | 37262          | 2.07              | 7.0E-71                          | AL163210.2            | NT   | Homo sapiens chromosome 21 segment HS21C10   |
| 2207             | 14835           | 27673          | 5.87              | 5.0E-71                          | AF056322.1            | NT   | Homo sapiens SP100-HMG nuclear autoantigen (SP100) mRNA, complete cds  |

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Table 4

Single Exon Probes Expressed in Brain

| Probe Seq ID No: | Exon Seq ID No: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|---|
| 4101             | 16844           | 29472          | 1.36              | 5.0E-71                    | AW816405.1            | EST_HUMAN               | QVA-ST0234-181189-037-405 ST0234 Homo sapiens cDNA  |
| 5790             | 18581           | 31508          | 2.23              | 5.0E-71                    | 4502740 NT            |                         | Homo sapiens cyclin-dependent kinase 6 (CDK6) mRNA  |
| 6584             | 19329           | 32236          | 1.42              | 5.0E-71                    | 11641408 NT           |                         | Homo sapiens keratin, hair, acidic, 7 (KRTTHA7), mRNA   |
| 6821             | 19482           | 32504          | 1.43              | 5.0E-71                    | 7682209 NT            |                         | Homo sapiens KIAA0623 gene product (KIAA0623), mRNA   |
| 6878             | 17954           | 30580          | 0.62              | 5.0E-71                    | AB033106.1            | NT                      | Homo sapiens mRNA for KIAA1280 protein, partial cds   |
| 6878             | 17854           | 30551          | 0.62              | 5.0E-71                    | AB033106.1            | NT                      | Homo sapiens mRNA for KIAA1280 protein, partial cds   |
| 7046             | 19737           | 32798          | 0.78              | 5.0E-71                    | 11431590 NT           |                         | Homo sapiens protein kinase C, beta 1 (PRKCB1), mRNA  |
| 7410             | 20087           | 33171          | 1.47              | 5.0E-71                    | M38106.1              | NT                      | Human neurofibromatosis protein type 1 mRNA, 3' end of cds  |
| 7697             | 20273           | 33381          | 0.73              | 5.0E-71                    | 11526445 NT           |                         | Homo sapiens MAGUK protein p55 : Protein Associated with Lhs 2 (LOC31678), mRNA   |
| 7634             | 20289           | 33408          | 22.58             | 5.0E-71                    | AF072870.1            | NT                      | Homo sapiens transcription factor WSTF mRNA, complete cds   |
| 8421             | 21114           | 34261          | 0.81              | 6.0E-71                    | 6463777 NT            |                         | Homo sapiens nuclear factor related to kappa B binding protein (NFKB) mRNA  |
| 8421             | 21114           | 34252          | 0.81              | 5.0E-71                    | 5453777 NT            |                         | Homo sapiens nuclear factor related to kappa B binding protein (NFKB) mRNA  |
| 8511             | 22462           | 2.57           | 5.0E-71           | X13467.1                   | NT                    |                         | Human Ptx4 gene for Alzheimer's disease A4 amyloid protein precursor (exon 2)   |
| 10390            | 23227           | 38461          | 1.45              | 5.0E-71                    | 5728800 NT            |                         | Homo sapiens IgF-I mRNA-binding protein 3 (KOC1), mRNA  |
| 10501            | 23581           | 36881          | 2.88              | 5.0E-71                    | 11436814 NT           |                         | Homo sapiens pro-platelet basic protein (includes platelet basic protein, beta-thromboglobulin, connective tissue-activating peptide III, neutrophil-activating peptide-2) (PPBP), mRNA |
| 11147            | 23814           | 37097          | 2.57              | 5.0E-71                    | 11436869 NT           |                         | Homo sapiens similar to hypothetical protein FLJ20163 (H. sapiens) (LOC833265), mRNA  |
| 340              | 13141           | 25778          | 102.7             | 4.0E-71                    | AF157628.1            | NT                      | Equus caballus glycereraldehyde-3-phosphate dehydrogenase mRNA, partial cds   |
| 340              | 13141           | 25779          | 102.7             | 4.0E-71                    | AF157628.1            | NT                      | Equus caballus glycereraldehyde-3-phosphate dehydrogenase mRNA, partial cds   |
| 2888             | 15658           | 28289          | 1.97              | 4.0E-71                    | 4505880 NT            |                         | Homo sapiens peptidylarginine (P-LG) mRNA   |
| 4394             | 17131           | 29762          | 3.37              | 4.0E-71                    | AF056322.1            | NT                      | Homo sapiens SP100-LIHC nuclear autoantigen (SP100) mRNA, complete cds  |
| 46235            | 17854           | 30286          | 5.57              | 4.0E-71                    | 76576902 NT           |                         | Homo sapiens putative home-binding protein (SOUL), mRNA   |
| 5069             | 17798           | 30404          | 1.1               | 4.0E-71                    |                       |                         |   |
| 7833             | 20628           | 1.41           | 3.0E-71           | AU135734.1                 | EST_HUMAN             |                         | Homo sapiens cofactor required for Sp1 transcriptional activation, subunit 3 (130kD) (CRSP3), mRNA  |
| 10891            | 23285           | 36523          | 3.38              | 3.0E-71                    | AA557683.1            | EST_HUMAN               | AU135734_PlACE1 Homo sapiens cDNA clone PLAGE1002775' similar to contains PTR5.1 PTR5 repetitive element;   |
| 12028            | 13959           | 26626          | 2.02              | 2.0E-71                    | AL163206.2            | NT                      | Homo sapiens chromosome 21 segment HS21C008   |
| 5237             | 18043           | 30672          | 8.24              | 2.0E-71                    | D87462.1              | NT                      | Human mRNA for KIAA0272 gene, partial cds   |
| 5237             | 18043           | 30673          | 8.24              | 2.0E-71                    | D87462.1              | NT                      | Human mRNA for KIAA0272 gene, partial cds   |
| 6871             | 17948           | 30543          | 0.55              | 2.0E-71                    | AL042439.1            | EST_HUMAN               | DKFZp434D1721_1_434 (synonym: hts3) Homo sapiens cDNA clone DKFZp434D1721_5   |
| 8803             | 21564           | 34735          | 0.84              | 2.0E-71                    | BF195585.1            | EST_HUMAN               | 7n85c11.x1 NCI_CGAP_Ov18 Homo sapiens cDNA clone IMAGE:3571221 3' similar to TR:Q9Z165  |
|                  |                 |                |                   |                            |                       |                         | O9Z165 PUTATIVE FOUR REPEATION CHANNEL ;  |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe Seq ID NC: | Exon seq ID NC: | ORF seq ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|--|--------------------|
| 10485 23131      | 36357           | 3.88           | 2.0E-71           | AF095703.1                 | NT                    | Homo sapiens short chain L-3-hydroxyacyl-CoA dehydrogenase precursor (HADHSC) gene, nuclear gene encoding mitochondrial protein, complete cds  |                    |
| 10485 23131      | 36358           | 3.88           | 2.0E-71           | AF095703.1                 | NT                    | Homo sapiens short chain L-3-hydroxyacyl-CoA dehydrogenase precursor (HADHSC) gene, nuclear gene encoding mitochondrial protein, complete cds  |                    |
| 10583 23287      | 36524           | 3.21           | 2.0E-71           | BE018477.1                 | EST_HUMAN             | bb81a08.y1 NIH_MGC_10 Homo sapiens cDNA clone IMAGE:30448754 5' similar to SW_R23B_HUMAN P54727 UV EXCISION REPAIR PROTEIN RAD23 HOMOLOG B;  |                    |
| 11552 24151      | 37463           | 1.38           | 2.0E-71           | BF149173.1                 | EST_HUMAN             | Tmrl022 Human Epidermal Keratinocyte Subtraction Library- Upregulated Transcripts Homo sapiens cDNA similar to q1_65688881   |                    |
| 11552 24161      | 37464           | 1.38           | 2.0E-71           | BF149173.1                 | EST_HUMAN             | Tmrl022 Human Epidermal Keratinocyte Subtraction Library- Upregulated Transcripts Homo sapiens cDNA similar to q1_65688881   |                    |
| 11578 24175      | 37490           | 2.35           | 2.0E-71           | R55628.1                   | EST_HUMAN             | Y77G11.11 Scores fetal liver spleen 1NF1S Homo sapiens cDNA clone IMAGE:120520 5'  |                    |
| 12038 24561      |                 | 8.43           | 2.0E-71           | 185489.1                   | EST_HUMAN             | ye43d09.r1 Scores fetal liver spleen 1NF1S Homo sapiens cDNA clone IMAGE:16358916 3' similar to qy15e03.s1 Scores_senescent_fibroblasts_NbHSF Homo sapiens cDNA clone IMAGE:16358916 3' similar to contains LOR1.b2 LOR1 repetitive element: |                    |
| 623 13402        | 26037           | 1.83           | 1.0E-71           | A077827.1                  | EST_HUMAN             |  |                    |
| 920 13687        | 26351           | 2.37           | 1.0E-71           | 7706281                    | NT                    | Homo sapiens neuronal cell death-related protein (LOC51616), mRNA  |                    |
| 1078 -13838      | 26494           | 8.16           | 1.0E-71           | AF206890.1                 | NT                    | Homo sapiens disabled-2 gene, exons 2 through 15 and complete cds  |                    |
| 1317 14066       | 26740           | 11.71          | 1.0E-71           | AF012872.1                 | NT                    | Homo sapiens phosphatidylinositol 4-kinase 230 (pI4K230) mRNA, complete cds  |                    |
| 2074 14806       | 27536           | 1.38           | 1.0E-71           | AB017007.1                 | NT                    | Homo sapiens PMS2L18 mRNA, partial cds   |                    |
| 2074 14806       | 27537           | 1.38           | 1.0E-71           | AB017007.1                 | NT                    | Homo sapiens PMS2L18 mRNA, partial cds   |                    |
| 2698 15407       | 28142           | 3.91           | 1.0E-71           | 7857153                    | NT                    | Homo sapiens hair/ventilencer-of-split related with YRPW motif-like (HEY1), mRNA   |                    |
| 3483 16249       | 28903           | 2.53           | 1.0E-71           | AF118865.1                 | NT                    | Homo sapiens Inorganic pyrophosphatase mRNA, complete cds  |                    |
| 3883 16338       | 28982           | 5.88           | 1.0E-71           | AF246218.1                 | NT                    | Homo sapiens SNARE Protein Kinase SNAK mRNA, complete cds  |                    |
| 3883 16338       | 28983           | 5.88           | 1.0E-71           | AF246218.1                 | NT                    | Homo sapiens SNARE Protein Kinase SNAK mRNA, complete cds  |                    |
| 3639 16392       | 29031           | 0.98           | 1.0E-71           | BE122850.1                 | EST_HUMAN             | 02_15 Human Epidermal Keratinocyte Subtraction Library- Upregulated Transcripts Homo sapiens cDNA clone 02_16 similar to Homo sapiens chromosome 19  |                    |
| 3639 16392       | 29032           | 0.98           | 1.0E-71           | BE122850.1                 | EST_HUMAN             | 02_15 Human Epidermal Keratinocyte Subtraction Library- Upregulated Transcripts Homo sapiens cDNA clone 02_15 similar to Homo sapiens chromosome 19  |                    |
| 3724 16477       | 29114           | 2              | 1.0E-71           | AF216804.1                 | NT                    | Homo sapiens attractin precursor (ATRN) gene, exon 19  |                    |
| 4437 17173       | 29801           | 1.92           | 1.0E-71           | D28478.1                   | NT                    | Human mRNA for KIAA0045 gene, complete cds   |                    |
| 4852 17287       | 28916           | 0.98           | 1.0E-71           | H23178.1                   | EST_HUMAN             | ym56h10.r1 Scores infant brain 1N1B Homo sapiens cDNA clone IMAGE:52528 5'   |                    |
| 6643 19405       | 32420           | 1.07           | 1.0E-71           | 11428182                   | NT                    | Homo sapiens GCN5 (general control of amino-acid synthesis, yeast, homolog)-like 2 (GCN5L2), mRNA  |                    |
| 6898 18679       | 32728           | 1.39           | 1.0E-71           | AB011131.1                 | NT                    | Homo sapiens mRNA for KIAA0559 protein, partial cds  |                    |
| 7211 18896       | 32871           | 13.35          | 1.0E-71           | U80753.1                   | NT                    | Homo sapiens CAG78 mRNA, partial cds   |                    |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No.                            | Top Hit Database Source                          | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|--|--|--|
| 8046             | 20740           | 33872          | 0.89              | 1.0E-71                              | AF105267.1                                       | NT   | Homo sapiens glycan-6 (GPC6) mRNA, complete cds  |
| 8059             | 20763           | 33881          | 2.26              | 1.0E-71                              | 11425430   | NT   | Homo sapiens myomesin (M-protein) 2 (185KD) (MYOM2), mRNA  |
| 8345             | 21038           | 34174          | 4.09              | 1.0E-71                              | 89228111   | NT   | Homo sapiens hypothetical protein FLJ10898 (FLJ10898), mRNA  |
| 8345             | 21038           | 34175          | 4.09              | 1.0E-71                              | 89228111   | NT   | Homo sapiens hypothetical protein FLJ10898 (FLJ10898), mRNA  |
| 9128             | 21818           | 34082          | 0.78              | 1.0E-71                              | S72383.1   | NT   | CSNK2A1-casein kinase II (CKII) subunit alpha [Human, Genomic, 18862 nt]   |
| 9908             | 22557           | 35752          | 7.89              | 1.0E-71                              | AY007843.1                                       | NT   | Homo sapiens cyclchrome c oxidase subunit VII-related protein gene, complete cds   |
| 9968             | 22616           |                |                   | 2.05                                 | 1.0E-71  | AV761217 MDS Homo sapiens cDNA clone MDSEIA03_5' |  |
| 10436            | 23022           | 36830          | 1.45              | 1.0E-71                              | 11433142   | NT   | Homo sapiens activated leukocyte cell adhesion molecule (ALCAM), mRNA  |
| 10584            | 23375           |                | 2.88              | 1.0E-71                              | AV761217 MDS Homo sapiens cDNA clone MDSEIA03_5' |  |  |
| 10786            | 23478           | 38720          | 2.19              | 1.0E-71                              | 11418803   | NT   | Homo sapiens coagulation factor XII, A1 polypeptide (F13A1), mRNA  |
| 11093            | 23783           | 37037          | 1.73              | 1.0E-71                              | 11417191   | NT   | Homo sapiens leucyl/cysteinyl aminopeptidase (LNPEP), mRNA   |
| 11093            | 23783           | 37038          | 1.73              | 1.0E-71                              | 11417191   | NT   | Homo sapiens leucyl/cysteinyl aminopeptidase (LNPEP), mRNA   |
| 12401            | 24786           |                | 4.86              | 1.0E-71                              | AB011138.1                                       | NT   | Homo sapiens gene for AF-6, complete cds   |
| 398              | 13183           | 25830          | 1.72              | 9.0E-72                              | Al857635.1                                       | EST_HUMAN  | wk85603_x1 NCI_CGAP_Lu19 Homo sapiens cDNA clone IMAGE-2423188 3' similar to TR-088705 CS8705 HYPOTHETICAL 38.6 KD PROTEIN ;contains Alu repetitive element; |
| 398              | 13183           | 25831          | 1.72              | 9.0E-72                              | Al857635.1                                       | EST_HUMAN  | wk85603_x1 NCI_CGAP_Lu19 Homo sapiens cDNA clone IMAGE-2423188 3' similar to TR-088705 CS8705 HYPOTHETICAL 38.6 KD PROTEIN ;contains Alu repetitive element; |
| 60220            | 18801           | 31762          | 0.97              | 8.0E-72                              | BF035752.1                                       | EST_HUMAN  | 601458747F1 NIH_MGC_88 Homo sapiens cDNA clone IMAGE-3862451 5'  |
| 4092             | 16834           | 28453          | 2.63              | 7.0E-72                              | 4501866  | NT   | Homo sapiens aconitase 2, mitochondrial (ACO2), nuclear gene encoding mitochondrial protein, mRNA  |
| 4092             | 16834           | 28459          | 2.63              | 7.0E-72                              | 4501866  | NT   | Homo sapiens aconitase 2, mitochondrial (ACO2), nuclear gene encoding mitochondrial protein, mRNA  |
| 4092             | 16834           | 29460          | 2.63              | 7.0E-72                              | 4501866  | NT   | Homo sapiens aconitase 2, mitochondrial (ACO2), nuclear gene encoding mitochondrial protein, mRNA  |
| 7024             | 19716           | 32773          | 2.89              | 7.0E-72                              | S41684.1   | NT   | [pseudogene] PTMAP2-prithymosin alpha [Human, Genomic, 1182 nt, segment 2 of 3]  |
| 12520            | 24868           |                | 1.9               | 7.0E-72                              | F26259.1   | EST_HUMAN  | HSPD13670 HM3 Homo sapiens cDNA clone s4000051G02  |
| 62283            | 20977           |                | 4.14              | 6.0E-72                              | AL1632246.2                                      | NT   | Homo sapiens chromosome 21 segment HS21C046  |
| 60               | 12889           | 25521          | 1.06              | 5.0E-72                              | BF333707.1                                       | EST_HUMAN  | QVO-CS0010-160900-368-011 CS0010 Homo sapiens cDNA   |
| 60               | 12889           | 25522          | 1.06              | 5.0E-72                              | BF333707.1                                       | EST_HUMAN  | QVO-CS0010-150900-368-011 CS0010 Homo sapiens cDNA   |
| 61               | 12889           | 25521          | 3.47              | 5.0E-72                              | BF333707.1                                       | EST_HUMAN  | QVO-CS0010-150900-368-011 CS0010 Homo sapiens cDNA   |
| 61               | 12889           | 25522          | 3.47              | 5.0E-72                              | BF333707.1                                       | EST_HUMAN  | QVO-CS0010-150900-368-011 CS0010 Homo sapiens cDNA   |
| 1117             | 13874           |                | 3.62              | 5.0E-72                              | L11645.1   | NT   | Homo sapiens alpha-tubulin mRNA, complete cds  |
| 6851             | 19551           | 32581          | 1.59              | 5.0E-72                              | AU128584.1                                       | EST_HUMAN  | AU128584 NT2RP2 Homo sapiens cDNA clone NT2RP2003761 5'  |

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Table 4  
Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Meet Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|---|
| 7731             | 20394           | 33509          | 0.73              | 5.0E-72                              | AA316692.1            | EST_HUMAN               | EST188312 HCC cell line (metastasis to liver in mouse) II Homo sapiens cDNA 5' end similar to similar to   |   |
| 8676             | 21387           | 34614          | 3.71              | 6.0E-72                              | AW161274.1            | EST_HUMAN               | eu80c03.y1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2782564 5' similar to   |   |
| 8861             | 22511           | 35708          | 0.89              | 5.0E-72                              | AY724632.1            | EST_HUMAN               | TR:Q88786 Q88785 HYPOTHETICAL 32.4 KD PROTEIN; contains element NSR1 repetitive element;   |   |
| 11208            | 23871           | 37157          | 3.45              | 5.0E-72                              | BF331571.1            | EST_HUMAN               | AY724632 HTB Homo sapiens cDNA clone HTBAK6B01 5'  |   |
| 11208            | 23871           | 37158          | 3.45              | 6.0E-72                              | BF331671.1            | EST_HUMAN               | MR4-BT0598-010800-005-d05 BT0598 Homo sapiens cDNA   |   |
| 11643            | 24240           | 37583          | 1.61              | 5.0E-72                              | BE208545.1            | EST_HUMAN               | MR4-BT0598-010800-005-d05 BT0598 Homo sapiens cDNA clone IMAGE:2823806 5'  |   |
| 11643            | 24240           | 37584          | 1.61              | 5.0E-72                              | BE208545.1            | EST_HUMAN               | ba08g08.y1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2823806 5'  |   |
| 12107            | 25358           |                |                   | 2.82                                 | 5.0E-72               | BE926846.1              | EST_HUMAN  | ba08g08.y1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2823806 5' |
| 5378             | 18178           | 30888          | 0.62              | 4.0E-72                              | AF170026.1            | NT                      | QV1-BT0632-280800-342-e10 BT0832 Homo sapiens cDNA   |   |
| 8462             | 19229           | 32230          | 0.68              | 4.0E-72                              | T87947.1              | EST_HUMAN               | Homo sapiens zinc finger protein ZFP-95 (ZFP95) mRNA, alternatively spliced, complete cds  |   |
| 7309             | 19892           | 33069          | 2.03              | 4.0E-72                              | 5728867               | NT                      | SP-A44282 A44282 RETROVIRUS-RELATED POLYPROTEIN - HUMAN ;  |   |
| 9884             | 22336           | 35531          | 1.3               | 4.0E-72                              | 8923669               | NT                      | Homo sapiens hecatenin and RLD-2 (HERC2), mRNA   |   |
| 10282            | 22839           | 36152          | 0.48              | 4.0E-72                              | AW836230.1            | EST_HUMAN               | Homo sapiens hypothetical protein FLJ20758 (FLJ20758), mRNA  |   |
| 10282            | 22839           | 36153          | 0.48              | 4.0E-72                              | AW836230.1            | EST_HUMAN               | RC3-LT0023-200100-012-d11 LT0023 Homo sapiens cDNA   |   |
| 10320            | 22867           | 36186          | 0.92              | 4.0E-72                              | AI248788.1            | EST_HUMAN               | RC3-LT0023-200100-012-d11 LT0023 Homo sapiens cDNA   |   |
| 11255            | 23917           | 37210          | 1.57              | 4.0E-72                              | AA465398.1            | EST_HUMAN               | q87c02_x1 Soares_fetal_liver_spleen_1NFLS_S1 Homo sapiens cDNA clone IMAGE:1849730 3' similar to TR-Q14468 Q14468 SPLICING FACTOR, [1] contains Alt repetitive element;contains element L1 repetitive element; |   |
| 11255            | 23917           | 37211          | 1.57              | 4.0E-72                              | AA465398.1            | EST_HUMAN               | aa23f08.s1 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:8147121 3' similar to SW:CPTR_FLAIR   |   |
| 11514            | 24114           | 37424          | 7.78              | 4.0E-72                              | HT9421.1              | EST_HUMAN               | aa23f08.s1 NCI_CGAP_TRIOSE PHOSPHATE TRANSLOCATOR PRECURSOR ;  |   |
| 11637            | 24234           | 37555          | 1.75              | 4.0E-72                              | 7657057               | NT                      | aa23f08.s1 NCI_CGAP_TRIOSE PHOSPHATE TRANSLOCATOR PRECURSOR ;  |   |
| 11637            | 24234           | 37556          | 1.76              | 4.0E-72                              | 7657057               | NT                      | P49f31 CHLOROPLAST_EIF2B3 Homo sapiens cDNA clone IMAGE:235084 5'  |   |
| 11680            | 24275           | 37597          | 2.16              | 4.0E-72                              | T81910.1              | EST_HUMAN               | Homo sapiens eukaryotic translation initiation factor 2B, subunit 2 (beta, 39kD) (EIF2B2), mRNA  |   |
| 12453            | 24822           | 31025          | 8.92              | 4.0E-72                              | AJ277548.2            | NT                      | Homo sapiens eukaryotic translation initiation factor 2B, subunit 2 (beta, 39kD) (EIF2B2), mRNA  |   |
| 18               | 12846           | 25459          | 0.69              | 3.0E-72                              | 5031976               | NT                      | Homo sapiens pre-B-cell colony-enhancing factor (PBEF) mRNA  |   |
| 883              | 13652           |                | 1.52              | 3.0E-72                              | AA728323.1            | EST_HUMAN               | ah63a06.s1 Soares_fetal_liver_spleen_1NFLS Homo sapiens cDNA clone T310280 3'  |   |

Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon seq ID NO: | ORF seq ID NO: | Expression Signal | Meet Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 1132             | 19888           | 26548          | 6.84              | 3.0E-72                              | U16306.1              | NT                      | Human chondroitin sulfatase proteoglycan veriscan V0 splice-variant precursor peptide mRNA, complete cds  |
| 1132             | 19888           | 26547          | 6.84              | 3.0E-72                              | U16306.1              | NT                      | Human chondroitin sulfatase proteoglycan veriscan V0 splice-variant precursor peptide mRNA, complete cds  |
| 1171             | 13925           | 26587          | 0.72              | 3.0E-72                              | U80226.1              | NT                      | Human gamma-aminobutyric acid transaminase mRNA, partial cds  |
| 1171             | 13925           | 26588          | 0.72              | 3.0E-72                              | U80226.1              | NT                      | Human gamma-aminobutyric acid transaminase mRNA, partial cds  |
| 1510             | 14258           | 26942          | 1.24              | 3.0E-72                              | BE242161.1            | EST_HUMAN               | TCAAP1E1252 Pediatric acute myelogenous leukemia cell (FAB M1) Bay/Or-HGSC project=TCAA Home sapiens cDNA clone TCAAP1252   |
| 3072             | 19838           | 28481          | 11.45             | 3.0E-72                              | AJ226043.1            | NT                      | Human sepians 969 kb coming between AML1 and CBR1 on chromosome 21q22, segment 3/3  |
| 3273             | 16034           | 28684          | 2.17              | 3.0E-72                              | 89223548              | NT                      | Human sepians hypothetical protein FLJ20585 (FLJ20585), mRNA  |
| 3803             | 16555           | 29188          | 2.69              | 3.0E-72                              | S775389.1             | NT                      | TCR V delta 2-C alpha = T-cell receptor delta and C alpha fusion gene [alternatively spliced, splice junction] [human, precursor B-cell line REH, mRNA Partial, 211 nt]               |
| 4508             | 17243           | 28873          | 3.12              | 3.0E-72                              | 11416196              | NT                      | Human sepians hypothetical protein (FLJ11227), mRNA   |
| 4716             | 17447           | 30079          | 1.07              | 3.0E-72                              | AF167572.1            | NT                      | Human sepians protein methyltransferase (JBP1) mRNA, complete cds   |
| 4716             | 17447           | 30080          | 1.07              | 3.0E-72                              | AF167572.1            | NT                      | Human sepians protein methyltransferase (JBP1) mRNA, complete cds   |
| 4862             | 17591           | 30216          | 0.85              | 3.0E-72                              | AI854537.1            | EST_HUMAN               | wtS1603.x1 NCI CGAP GC8 Homo sapiens cDNA clone IMAGE2307254.3'   |
| 5433             | 18232           |                |                   | 1.27                                 | 3.0E-72               | 47590833                | NT  |
| 68891            | 18878           | 31621          | 2.1               | 3.0E-72                              | AF073367.1            | NT                      | Human sepians growth factor receptor-bound protein 10 (GRB10) gene, exon 6  |
| 58891            | 18878           | 31622          | 2.1               | 3.0E-72                              | AF073367.1            | NT                      | Human sepians growth factor receptor-bound protein 10 (GRB10) gene, exon 5  |
| 6074             | 18853           | 31819          | 4.82              | 3.0E-72                              | AB028004.1            | NT                      | Human sepians mRNA for KIAA1081 protein, partial cds  |
| 6074             | 18853           | 31820          | 4.82              | 3.0E-72                              | AB028004.1            | NT                      | Human sepians mRNA for KIAA1081 protein, partial cds  |
| 6518             | 18281           | 32284          | 3.63              | 3.0E-72                              | 48268987              | NT                      | Human sepians ribosomal protein L3-like (RP_L3L) mRNA   |
| 7485             | 20157           | 33249          | 2.15              | 3.0E-72                              | U80017.1              | NT                      | Human sepians basic transcription factor 2 p44 (btf2p44) gene, partial cds, neuronal apoptosis inhibitory protein (napip) and survival motor neuron protein (smn) genes, complete cds |
| 8075             | 20769           | 33898          | 0.98              | 3.0E-72                              | 50318892              | NT                      | Human sepians nuclear receptor subfamily 1, group H, member 3 (NR1H3), mRNA   |
| 10331            | 22878           | 36188          | 1.2               | 3.0E-72                              | X96289.1              | NT                      | Human sepians S100A12 genes for Calgranulin C, exon 2 and joined cds  |
| 6889             | 18858           | 31697          | 1.91              | 2.0E-72                              | 11428671              | NT                      | Human sepians solute carrier family 13 (sodium-dependent dicarboxylate transporter), member 2 (SLC13A2), mRNA   |
| 8983             | 21683           | 34682          | 0.71              | 2.0E-72                              | BF308560.1            | EST_HUMAN               | 6018904119F1 NIH MGCC_17 Homo sapiens cDNA clone IMAGE4131481 5'  |
| 8983             | 21683           | 34883          | 0.71              | 2.0E-72                              | BF308560.1            | EST_HUMAN               | 6018904119F1 NIH MGCC_17 Homo sapiens cDNA clone IMAGE4131481 5'  |
| 10640            | 22331           | 38589          | 2.47              | 2.0E-72                              | AA789277.1            | EST_HUMAN               | 6122609.61 Scores testis_NHT Homo sapiens cDNA clone 1391609 3' similar to gb:X020887 H. sapiens mRNA for 7SL RNA pseudogene (HUMAN);   |
| 12449            | 24819           | 31022          | 5.75              | 2.0E-72                              | AF182714.1            | NT                      | Rattus norvegicus putative phosphoenopyruvate translocator mRNA, complete cds   |
| 20688            | 14800           | 27627          | 1.19              | 1.0E-72                              | AA848225.1            | EST_HUMAN               | ai83d02.s1 Scores parathyroid tumor_NbHPA Homo sapiens cDNA clone IMAGE1387395 3'   |

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Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 5680             | 18473           | 31390          | 3.63              | 1.0E-72                              | 7657676               | NT                      | Homo sapiens vacuolar protein sorting 41 (yeast homolog) (VPS41), mRNA  |
| 6464             | 19231           | 322231         | 1.31              | 1.0E-72                              | 11321578              | NT                      | Homo sapiens myosin, heavy polypeptide 13, skeletal muscle (MYH13), mRNA  |
| 6464             | 19231           | 322232         | 1.31              | 1.0E-72                              | 11321578              | NT                      | Homo sapiens myosin, heavy polypeptide 13, skeletal muscle (MYH13), mRNA  |
| 6536             | 25093           | 32305          | 1.2               | 1.0E-72                              | AV751818.1            | EST_HUMAN               | AV751818 NPD Homo sapiens cDNA clone NPDAIE11.5'  |
| 7537             | 20207           | 33304          | 3.7               | 1.0E-72                              | BE175434.1            | EST_HUMAN               | RC4-HT0578-170300-012-g02 HT0578 Homo sapiens cDNA  |
| 7537             | 20207           | 33305          | 3.7               | 1.0E-72                              | BE175434.1            | EST_HUMAN               | RC4-HT0578-170300-012-g02 HT0578 Homo sapiens cDNA  |
| 8491             | 22144           | 35324          | 10.25             | 1.0E-72                              | AF222742.1            | NT                      | Homo sapiens synaptic glycoprotein SC2 (SC2) mRNA, complete cds   |
| 9491             | 22144           | 35325          | 10.25             | 1.0E-72                              | AF222742.1            | NT                      | Homo sapiens synaptic glycoprotein SC2 (SC2) mRNA, complete cds   |
| 1444             | 14191           | 26876          | 1.35              | 9.0E-73                              | AW374988.1            | EST_HUMAN               | MRO-CT0063-071089-002-h11 C70633 Homo sapiens cDNA  |
| 10871            | 23551           |                | 15.11             | 9.0E-73                              | 114240989             | NT                      | Homo sapiens ribosomal protein L13a (RPL13A), mRNA  |
| 10115            | 13774           | 26494          | 2.20              | 8.0E-73                              | AW071755.1            | EST_HUMAN               | WS55206_x1 NCI CGAP_Bm25 Homo sapiens cDNA clone IMAGE2501088 3' similar to TR-Q59050   |
| 5493             | 18282           | 31180          | 1                 | 8.0E-73                              | 4505798               | NT                      | O58050 HYPOTHETICAL PROTEIN MJ1656.1  |
| 6478             | 19245           | 32245          | 5.16              | 8.0E-73                              | 11428468              | NT                      | Homo sapiens phosphatidylinositol 3'-kinase, class 2, alpha peptide (PIK3C2A) mRNA  |
| 7894             | 20689           | 33817          | 2.87              | 8.0E-73                              | AF113128.1            | NT                      | Homo sapiens lysozyme homolog (LOC57151), mRNA  |
| 9253             | 21932           | 35105          | 6.25              | 8.0E-73                              | BE018900.1            | EST_HUMAN               | bb62a06_y1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE303034 5' similar to gb:X040988_cds1 ACTIN, CYTOPLASMIC 2 (HUMAN); gb:M21495 Mouse cytoskeletal gamma-actin mRNA, complete cds (MOUSE); |
| 9340             | 22282           | 35484          | 1.92              | 8.0E-73                              | 11526037              | NT                      | Homo sapiens Interleukin 12 receptor, beta 1 (IL12RB1), mRNA  |
| 9340             | 22282           | 35485          | 1.92              | 8.0E-73                              | 11526037              | NT                      | Homo sapiens Interleukin 12 receptor, beta 1 (IL12RB1), mRNA  |
| 10507            | 23153           | 36378          | 0.45              | 8.0E-73                              | 4507628               | NT                      | Homo sapiens transition protein 1 (during histone to protamine replacement) (TNP1) mRNA   |
| 11573            | 24172           | 37488          | 1.28              | 8.0E-73                              | 11416788              | NT                      | Homo sapiens DEAD-box protein (HAGE), mRNA  |
| 12503            | 24859           | 31012          | 3.31              | 8.0E-73                              | 11416189              | NT                      | Homo sapiens thyroid autoantigen 70kD (Ku antigen) (G2ZP1), mRNA  |
| 1112             | 13868           | 28528          | 0.89              | 7.0E-73                              | 88232390              | NT                      | Homo sapiens hypothetical protein FLJ22309 (FLJ22309), mRNA   |
| 3285             | 16058           | 28705          | 1.18              | 7.0E-73                              | AL168320.2            | NT                      | Homo sapiens chromosome 21 segment HS21 C008  |
| 4891             | 17618           |                | 1.35              | 7.0E-73                              | AL16832822            | NT                      | Homo sapiens chromosome 21 segment HS21 C082  |
| 154              | 12969           |                | 3.07              | 8.0E-73                              | AL16832182            | NT                      | Homo sapiens chromosome 21 segment HS21 C018  |
| 7072             | 19763           | 32827          | 3.48              | 8.0E-73                              | BE1685674.1           | EST_HUMAN               | QV0-HT0494-020300-137_d03 HT0494 Homo sapiens cDNA  |
| 5173             | 17982           | 30497          | 2.2               | 4.0E-73                              | 11422159              | NT                      | Homo sapiens HELG protein (FAM441), mRNA  |
| 1318             | 14067           | 28741          | 2.77              | 3.0E-73                              | AW843789.1            | EST_HUMAN               | CN0-CN0044-260100-164-f08 CN0044 Homo sapiens cDNA  |
| 6598             | 19381           | 32374          | 0.71              | 3.0E-73                              | AA136488.1            | EST_HUMAN               | zr05se04_a1 Strategene fetal retina 937202 Homo sapiens cDNA clone IMAGE568565 3' similar to  |
| 8656             | 21348           | 34492          | 0.65              | 3.0E-73                              | AV729428.1            | EST_HUMAN               | gb:Z233064_cds1 HETEROGENEOUS NUCLEAR RIBONUCLEOPROTEIN G (HUMAN);  |
| 8656             | 21349           | 34493          | 0.65              | 3.0E-73                              | AV729428.1            | EST_HUMAN               | AV729428 HTC Homo sapiens cDNA clone HTCAAFF071 5'  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 116111           | 24209           |                | 1.51              | 3.0E-73                              | AJ04040.1             | EST_HUMAN               | out1d02x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:1625855 3'                                       |
| 12734            | 25003           |                | 1.5               | 3.0E-73                              | AL163246.2            | NT                      | Homo sapiens chromosome 21 segment HS21C046  |
| 12738            | 25005           |                | 1.54              | 3.0E-73                              | AW898081.1            | EST_HUMAN               | RC3-NN0086-270400-011-d04 NN0086 Homo sapiens cDNA   |
| 831              | 13801           | 28271          | 1.43              | 2.0E-73                              | AF138897.1            | NT                      | Homo sapiens BASS1 (BASS1) mRNA, partial cds   |
| 1839             | 14874           |                | 1.78              | 2.0E-73                              | AW898081.1            | EST_HUMAN               | RC3-NN0086-270400-011-d04 NN0086 Homo sapiens cDNA   |
| 2288             | 15021           |                | 1.3               | 2.0E-73                              | U01317.1              | NT                      | Human beta globin region on chromosome 11  |
| 3177             | 18940           | 28590          | 3.88              | 2.0E-73                              | 4502582               | NT                      | Homo sapiens caspase 8, apoptosis-related cysteine protease (CASP8) mRNA                                     |
| 3538             | 16284           | 28943          | 0.91              | 2.0E-73                              | 7689539               | NT                      | Homo sapiens Parkinson disease (autosomal recessive, Juvenile) 2, parkin (PARK2), transcript variant 3, mRNA |
| 3538             | 16294           | 28944          | 0.91              | 2.0E-73                              | 7689539               | NT                      | Homo sapiens Parkinson disease (autosomal recessive, Juvenile) 2, parkin (PARK2), transcript variant 3, mRNA |
| 4401             | 17138           |                | 1.03              | 2.0E-73                              | AL163283.2            | NT                      | Homo sapiens chromosome 21 segment HS21C083  |
| 6344             | 19114           | 32102          | 0.89              | 2.0E-73                              | AF089824.1            | NT                      | Mus musculus mfrac-interacting citron kinase (Cik) mRNA, complete cds  |
| 6344             | 19114           | 32103          | 0.89              | 2.0E-73                              | AF089824.1            | NT                      | Mus musculus mfrac-interacting citron kinase (Cik) mRNA, complete cds  |
| 6389             | 19158           | 32158          | 6.27              | 2.0E-73                              | AB046811.1            | NT                      | Homo sapiens mRNA for KIAA1581 protein, partial cds  |
| 6800             | 19363           | 32237          | 1.27              | 2.0E-73                              | 11431471              | NT                      | Homo sapiens Interleukin 4 receptor (IL4R) mRNA  |
| 6800             | 19363           | 32277          | 1.27              | 2.0E-73                              | 11431471              | NT                      | Homo sapiens Interleukin 4 receptor (IL4R) mRNA  |
| 7689             | 20362           | 33478          | 0.69              | 2.0E-73                              | M94048.1              | NT                      | Human peripheral myelin protein 22 mRNA, complete cds  |
| 7701             | 20364           | 33478          | 0.73              | 2.0E-73                              | AB097750.1            | NT                      | Home sapiens mRNA for KIAA1328 protein, partial cds  |
| 8432             | 22110           | 35284          | 0.62              | 2.0E-73                              | AF198349.1            | NT                      | Gallus gallus Dach2 protein (Dach2) mRNA, complete cds   |
| 8432             | 22110           | 35285          | 0.52              | 2.0E-73                              | AF198349.1            | NT                      | Gallus gallus Dach2 protein (Dach2) mRNA, complete cds   |
| 10322            | 22869           | 36189          | 1.21              | 2.0E-73                              | 4504168               | NT                      | Home sapiens glutathione synthetase (GSS) mRNA   |
| 10384            | 23040           | 36257          | 1.31              | 2.0E-73                              | 11486890              | NT                      | Home sapiens supervillin (SVII), transcript variant 1, mRNA  |
| 10384            | 23040           | 36258          | 1.31              | 2.0E-73                              | 11486890              | NT                      | Home sapiens supervillin (SVII), transcript variant 1, mRNA  |
| 10887            | 23662           | 36917          | 3.37              | 2.0E-73                              | 4857612               | NT                      | Home sapiens galactosylceramidase (Krabbe disease) (GALC) mRNA   |
| 10887            | 23662           | 36918          | 3.37              | 2.0E-73                              | 4857612               | NT                      | Home sapiens galactosylceramidase (Krabbe disease) (GALC) mRNA   |
| 11020            | 23692           | 36955          | 1.82              | 2.0E-73                              | AB028982.1            | NT                      | Home sapiens mRNA for KIAA1058 protein, partial cds  |
| 12283            | 14674           |                | 1.83              | 2.0E-73                              | AW898081.1            | EST_HUMAN               | RC3-NN0086-270400-011-d04 NN0086 Homo sapiens cDNA   |
| 1778             | 14518           | 27221          | 1.71              | 1.0E-73                              | AJ121585.1            | EST_HUMAN               | AJ121585 MAMMA1 Homo sapiens cDNA clone MAMMA1000480 5'  |
| 2488             | 15205           | 27946          | 1.12              | 1.0E-73                              | AF198349.1            | NT                      | Gallus gallus Dach2 protein (Dach2) mRNA, complete cds   |
| 6286             | 19039           | 32016          | 1.07              | 1.0E-73                              | BE151283.1            | EST_HUMAN               | CM1-HT0282-111189-042-110 HT0282 Homo sapiens cDNA   |
| 9389             | 22081           | 35230          | 1.37              | 1.0E-73                              | AJ147427.1            | EST_HUMAN               | cgf1607_r1 Soares testis NTF Hom sapiens cDNA clone IMAGE:1639637 5' similar to contains element             |
| 11428            | 23195           | 38426          | 2.95              | 1.0E-73                              | BE385477.1            | EST_HUMAN               | MER22 repetitive element;  |
|                  |                 |                |                   |                                      |                       |                         | 601276071F NIH_MGC_20 Homo sapiens cDNA clone IMAGE:3617105 5'   |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | (Top) Hit No. | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|---------------|-----------------------|-------------------------|--|
| 723              | 13497           | 26150          |                   | 1.08                       | 8.0E-74       | 4557426               | NT                      | Homo sapiens CD39-like 4 (CD39L4) mRNA   |
| 5824             | 186113          | 31544          |                   | 2.2                        | 8.0E-74       | S83194.1              | NT                      | Ca2+/calmodulin-dependent protein kinase IV kinase isoform [rats, brain, mRNA, 3429 nt]                                  |
| 5824             | 186113          | 31545          |                   | 2.2                        | 8.0E-74       | S83194.1              | NT                      | Ca2+/calmodulin-dependent protein kinase IV kinase isoform [rats, brain, mRNA, 3429 nt]                                  |
| 10701            | 23474           |                |                   | 1.38                       | 8.0E-74       | N52239.1              | EST_HUMAN               | y46g10.s1 Soares fetal liver spleen 1NFSL Homo sapiens cDNA clone IMAGE:2458283'   |
| 1942             | 14677           | 27390          |                   | 2.59                       | 7.0E-74       | AJ001689.1            | NT                      | Homo sapiens NK2GD gene, exon 10   |
| 3322             | 16082           | 28732          |                   | 1.08                       | 7.0E-74       | AL163246.2            | NT                      | Homo sapiens chromosome 21 segment HS21C046  |
| 9142             | 21873           | 35038          |                   | 2.83                       | 7.0E-74       | BE987432.1            | EST_HUMAN               | 601649284F1 NIH_MGC_73 Homo sapiens cDNA clone IMAGE:38928975'   |
| 12505            | 24858           | 31011          |                   | 5.51                       | 7.0E-74       | BE265305.1            | EST_HUMAN               | 601191927F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:35368555 5'   |
| 1100             | 13858           | 28518          |                   | 2.4                        | 8.0E-74       | AF108907.1            | NT                      | Homo sapiens S164 gene, partial cds; and S171 gene, partial cds  |
| 2314             | 15039           | 27778          |                   | 11.78                      | 8.0E-74       | BE388260.1            | EST_HUMAN               | 601283521F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3605453 5'  |
| 2314             | 15039           | 27777          |                   | 11.78                      | 8.0E-74       | BE388260.1            | EST_HUMAN               | 601283521F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3605453 5'  |
| 2887             | 15834           | 28270          |                   | 1.32                       | 8.0E-74       | AW014039.1            | EST_HUMAN               | UH-B10-ear-h-03-0-U1 s1 NCI CGAP_Sub1 Homo sapiens cDNA clone IMAGE:27083853'  |
| 2887             | 15834           | 28280          |                   | 1.32                       | 8.0E-74       | AW014039.1            | EST_HUMAN               | UH-B10-ear-h-03-0-U1 s1 NCI CGAP_Sub1 Homo sapiens cDNA clone IMAGE:27083853'  |
| 3700             | 16453           | 29092          |                   | 1.34                       | 8.0E-74       | BE048846.1            | EST_HUMAN               | hf54e11.x1 NCI CGAP_Kid11 Homo sapiens cDNA clone IMAGE:31323323'  |
| 3700             | 16453           | 29093          |                   | 1.34                       | 8.0E-74       | BE048846.1            | EST_HUMAN               | hf54e11.x1 NCI CGAP_Kid11 Homo sapiens cDNA clone IMAGE:31323323'  |
| 6281             | 18088           | 30744          |                   | 3.02                       | 8.0E-74       | 11056013              | NT                      | Homo sapiens actin filament associated protein (AFAP), mRNA  |
| 885              | 13854           | 28322          |                   | 7.33                       | 8.0E-74       | AW020988.1            | EST_HUMAN               | dr17c08.y1 Morton Fetal Coohea Homo sapiens cDNA clone IMAGE:2483704 5'  |
| 2706             | 15413           |                |                   | 2.62                       | 6.0E-74       | AW3822758.1           | EST_HUMAN               | PM0-C70289-271089-001-H07 C10289 Homo sapiens cDNA   |
| 5322             | 18125           | 30784          |                   | 1.86                       | 6.0E-74       | 11426417              | NT                      | Homo sapiens phosphatidylinositol diacyl, class L (PTGL), mRNA   |
| 5703             | 18497           | 31419          |                   | 12.98                      | 5.0E-74       | XB8970.1              | NT                      | H.sapiens mRNA for TPCR16 protein  |
| 5748             | 18540           | 31462          |                   | 7.41                       | 6.0E-74       | 4507868               | NT                      | Homo sapiens VAMP (vesicle-associated membrane protein)-associated protein A (33kD) (VAPA) mRNA, and translated products |
| 5818             | 18608           | 31539          |                   | 1.84                       | 5.0E-74       | 11431471              | NT                      | Homo sapiens Interleukin 4 receptor (IL4R), mRNA   |
| 5819             | 18608           | 31537          |                   | 1.84                       | 5.0E-74       | 11431471              | NT                      | Homo sapiens Interleukin 4 receptor (IL4R), mRNA   |
| 6795             | 19539           | 32597          |                   | 5.98                       | 5.0E-74       | 7662263               | NT                      | Homo sapiens KIAA0716 gene product (KIAA0716), mRNA  |
| 7569             | 19539           | 32597          |                   | 0.6                        | 5.0E-74       | 7662263               | NT                      | Homo sapiens KIAA0716 gene product (KIAA0716), mRNA  |
| 7936             | 20631           | 33758          |                   | 2.78                       | 5.0E-74       | 11345483              | NT                      | Homo sapiens hypothetical protein FLJ13222 (FLJ13222), mRNA  |
| 10838            | 23328           | 36565          |                   | 2.56                       | 6.0E-74       | Y09420.1              | NT                      | H.sapiens mRNA for HIP-1   |
| 10836            | 23328           | 36566          |                   | 2.56                       | 5.0E-74       | Y09420.1              | NT                      | H.sapiens mRNA for HIP-1   |
| 10757            | 23442           | 36887          |                   | 2.68                       | 6.0E-74       | 5729768               | NT                      | Homo sapiens cell adhesion molecule with homology to L1CAM (class homologue of L1) (CHL1), mRNA                          |
| 273              | 13080           | 25723          |                   | 1.79                       | 4.0E-74       | D87675.1              | NT                      | Homo sapiens DNA for amyloid precursor protein, complete cds   |
| 832              | 13602           | 28272          |                   | 5.15                       | 4.0E-74       | AB028942.1            | NT                      | Homo sapiens mRNA for KIAA1019 protein, partial cds  |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|--|--------------------|
| 1955 14690       | 27403           | 2.02           | 4.0E-74           | AB026898.1                       | NT                    | Homo sapiens DNA, DLECh to ORC1L4 gene region, section 1/2 (DLECh), ORC1L3, ORC1L4 genes, complete cds)  |                    |
| 1955 14690       | 27404           | 2.02           | 4.0E-74           | AB026898.1                       | NT                    | Homo sapiens DNA, DLECh to ORC1L4 gene region, section 1/2 (DLECh), ORC1L3, ORC1L4 genes, complete cds)  |                    |
| 2085 14797       | 27523           | 2.75           | 4.0E-74           | 4500192                          | NT                    | Homo sapiens proteasome (prosome, macropain) subunit, beta type, 1 (PSMB1) mRNA  |                    |
| 2085 14797       | 27524           | 2.75           | 4.0E-74           | 4500192                          | NT                    | Homo sapiens proteasome (prosome, macropain) subunit, beta type, 1 (PSMB1) mRNA  |                    |
| 2128 14859       | 27589           | 1.99           | 4.0E-74           | AB032294.1                       | NT                    | Homo sapiens mRNA for KIAA1168 protein, partial cds  |                    |
| 2427 15148       | 27882           | 27.23          | 4.0E-74           | AJ006978.1                       | NT                    | Homo sapiens PLP gene  |                    |
| 3088 15853       | 28495           | 5.2            | 4.0E-74           | AJ006978.1                       | NT                    | Homo sapiens PLP gene  |                    |
| 3518 16274       | 28923           | 0.82           | 4.0E-74           | AL169210.2                       | NT                    | <b>Homo sapiens chromosome 21 segment HS21C010</b>   |                    |
| 4041 16786       | 29414           | 1.03           | 4.0E-74           | AL169247.2                       | NT                    | <b>Homo sapiens chromosome 21 segment HS21C047</b>   |                    |
| 4520 17255       | 28889           | 2.23           | 4.0E-74           | 7682163                          | NT                    | Homo sapiens KIAA0568 gene product (KIAA0568), mRNA  |                    |
| 4573 17308       | 28937           | 0.88           | 4.0E-74           | Z17227.1                         | NT                    | Homo sapiens mRNA for transmembrane receptor protein   |                    |
| 5015 17738       | 30343           | 0.98           | 4.0E-74           | 4504326                          | NT                    | Homo sapiens hydroxacyl-Coenzyme A thiolesterase/3-ketosacyl-Coenzyme A thiolesterase/enoyl-Coenzyme A hydratase (infunctional protein), beta subunit (HADHB) mRNA |                    |
| 5015 17738       | 30344           | 0.98           | 4.0E-74           | 4504326                          | NT                    | Homo sapiens hydroxacyl-Coenzyme A thiolesterase/3-ketosacyl-Coenzyme A thiolesterase/enoyl-Coenzyme A hydratase (infunctional protein), beta subunit (HADHB) mRNA |                    |
| 8448 21140       | 8445            | 8.45           | 3.0E-74           | AA300378.1                       | EST_HUMAN             | EST1313 Thymus tumor III Homo sapiens cDNA 5' end similar to similar to ribosomal protein L37  |                    |
| 8473 21165       | 34309           | 0.79           | 3.0E-74           | 98965912                         | NT                    | Homo sapiens actin-related protein 3-beta (ARP3BETA), mRNA   |                    |
| 9272 22028       | 35188           | 2.99           | 3.0E-74           | M78884.1                         | EST_HUMAN             | EST01132 Subtracted Hippocampus, Stratagene (cat. #836205) Homo sapiens cDNA clone HHCPPI  |                    |
| 10237 22885      | 36099           | 2.68           | 3.0E-74           | AA4501493.1                      | EST_HUMAN             | nc17g05.s1 NCI_CGAP_Phe1 Homo sapiens cDNA clone IMAGE:1100884 3'  |                    |
| 838 13705        | 26370           | 175.01         | 2.0E-74           | 7689491                          | NT                    | Homo sapiens glycereraldehyde-3-phosphate dehydrogenase (GAPD), mRNA   |                    |
| 838 13705        | 26371           | 175.01         | 2.0E-74           | 7689491                          | NT                    | Homo sapiens glycereraldehyde-3-phosphate dehydrogenase (GAPD), mRNA   |                    |
| 1162 13807       | 28570           | 1.11           | 2.0E-74           | AF020092.1                       | NT                    | Human endogenous retrovirus HERV-K-T47D  |                    |
| 1222 13972       | 26844           | 1.38           | 2.0E-74           | AI950528.1                       | EST_HUMAN             | W651607.31 NCI_CGAP_Lu28 Homo sapiens cDNA clone IMAGE:2547204 3' similar to SW:GC35_HUMAN Q98379 GOLGIN-95 ;contains element MER22 repetitive element;            |                    |
| 1590 14336       | 27024           | 3.79           | 2.0E-74           | 4885198                          | NT                    | Homo sapiens epidermal growth factor receptor (avian erythroblastotic leukemia viral (v-erb-b) oncogene homolog) (EGFR) mRNA                                       |                    |
| 1590 14336       | 27025           | 3.79           | 2.0E-74           | 4885198                          | NT                    | Homo sapiens epidermal growth factor receptor (avian erythroblastotic leukemia viral (v-erb-b) oncogene homolog) (EGFR) mRNA                                       |                    |
| 2609 15321       | 28083           | 0.94           | 2.0E-74           | AI557280.1                       | EST_HUMAN             | PT2.1_15_G11r turn2 Homo sapiens cDNA 3'   |                    |
| 4945 17672       | 30281           | 2.44           | 2.0E-74           | AL355032.1                       | NT                    | Novel human gene mapping to chromosome 22  |                    |
| 4945 17872       | 30282           | 2.44           | 2.0E-74           | AL355032.1                       | NT                    | Novel human gene mapping to chromosome 22  |                    |

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Table 4  
Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 4949             | 17676           | 30288          | 1.11              | 2.0E-74                              | J02963.1              | NT                      | Human platelet glycoprotein IIb mRNA, 3' end                                 |
| 5703             | 25074           | 31424          | 2.5               | 2.0E-74                              | BE711134.1            | EST_HUMAN               | RC8-HT0678-220500-011-C03 HT0678 Homo sapiens cDNA                           |
| 5806             | 25077           | 31521          | 1.89              | 2.0E-74                              | 11439587              | NT                      | Homo sapiens PDZ-73 protein (PDZ-73NY-CO-38), mRNA                           |
| 5808             | 25077           | 31522          | 1.89              | 2.0E-74                              | 11439587              | NT                      | Homo sapiens PDZ-73 protein (PDZ-73NY-CO-38), mRNA                           |
| 5876             | 25077           | 31521          | 2.78              | 2.0E-74                              | 11439587              | NT                      | Homo sapiens PDZ-73 protein (PDZ-73NY-CO-38), mRNA                           |
| 5878             | 25077           | 31622          | 2.78              | 2.0E-74                              | 11439587              | NT                      | Homo sapiens PDZ-73 protein (PDZ-73NY-CO-38), mRNA                           |
| 7003             | 19695           | 32748          | 0.92              | 2.0E-74                              | BFC03078.1            | EST_HUMAN               | 601557524F1 NIH_MGC_58 Homo sapiens cDNA clone IMAGE:38227549 5              |
| 7841             | 20536           | 33663          | 1.28              | 2.0E-74                              | AB037816.1            | NT                      | Homo sapiens mRNA for KIAA1395 protein, partial cds                          |
| 9282             | 22036           | 35208          | 6.06              | 2.0E-74                              | AL163204.2            | NT                      | Homo sapiens chromosome 21 segment HS21C004                                  |
| 12234            | 24687           |                | 3.95              | 2.0E-74                              | AA186181.1            | EST_HUMAN               | Zp86a08..31 Strategene muscle 837209 Homo sapiens cDNA clone IMAGE:628016 3' |
| 52               | 12881           | 25509          | 1.89              | 1.0E-74                              | 7657534               | NT                      | Homo sapiens Misschapt/NIK-related kinase (NIK), mRNA                        |
| 328              | 13129           | 25764          | 5.02              | 1.0E-74                              | AW816405.1            | EST_HUMAN               | QV4-ST0234-181189-037-f05 ST0234 Homo sapiens cDNA                           |
| 487              | 13272           | 25907          | 1.05              | 1.0E-74                              | 89228289              | NT                      | Homo sapiens hypothetical protein FLJ11028 (FLJ11028), mRNA                  |
| 493              | 13277           | 25912          | 13.6              | 1.0E-74                              | X02344.1              | NT                      | Homo sapiens beta 2 gene   |
| 587              | 13367           | 25995          | 1.47              | 1.0E-74                              | 4509020               | NT                      | Homo sapiens zinc finger protein 259 (ZNF259), mRNA                          |
| 765              | 13539           | 26197          | 1.81              | 1.0E-74                              | AB020840.1            | NT                      | Homo sapiens mRNA for KIAA0833 protein, partial cds                          |
| 979              | 13744           | 26406          | 2.27              | 1.0E-74                              | AL163246.2            | NT                      | Homo sapiens chromosome 21 segment HS21C046                                  |
| 2223             | 14951           | 27680          | 4.39              | 1.0E-74                              | AB002059.1            | NT                      | Homo sapiens DNA for Human P2X6, complete cds                                |
| 3136             | 15890           | 28545          | 3.55              | 1.0E-74                              | 4758897               | NT                      | Homo sapiens mannose-6-phosphate, alpha, class 2A, member 1 (MAN2A1), mRNA   |
| 3368             | 16125           | 28782          | 0.9               | 1.0E-74                              | AA258549.1            | EST_HUMAN               | Zf80c01.1 Soares_NIHMPu_S1 Homo sapiens cDNA clone IMAGE:687776 5            |
| 3368             | 16125           | 28783          | 0.9               | 1.0E-74                              | AA258549.1            | EST_HUMAN               | Zf80c01.1 Soares_NIHMPu_S1 Homo sapiens cDNA clone IMAGE:687776 5            |
| 3901             | 16851           | 29282          | 0.86              | 1.0E-74                              | 4504116               | NT                      | Homo sapiens glutamate receptor, ionotropic, kainate 1 (GRIK1), mRNA         |
| 3901             | 16851           | 29283          | 0.86              | 1.0E-74                              | 4504116               | NT                      | Homo sapiens glutamate receptor, ionotropic, kainate 1 (GRIK1), mRNA         |
| 3950             | 16700           | 29339          | 4.81              | 1.0E-74                              | AL163288.2            | NT                      | Homo sapiens chromosome 21 segment HS21C068                                  |
| 4042             | 16787           | 29416          | 1.16              | 1.0E-74                              | BE083080.1            | EST_HUMAN               | RC2-BT0642-270300-019-f06 BT0642 Homo sapiens cDNA                           |
| 6805             | 19368           | 32380          | 1.88              | 1.0E-74                              | M89914.1              | NT                      | Human neurofibromin (NF1) gene, complete cds                                 |
| 7528             | 20197           | 33291          | 1.16              | 1.0E-74                              | 11417977              | NT                      | Homo sapiens KIAA0852 protein (KIAA0852), mRNA                               |
| 7955             | 20650           | 33773          | 1.13              | 1.0E-74                              | BE549105.1            | EST_HUMAN               | 60107008F1 NIH_MGC_12 Homo sapiens cDNA clone IMAGE:3456280 5                |
| 7955             | 20650           | 33774          | 1.13              | 1.0E-74                              | BE549105.1            | EST_HUMAN               | 60107008F1 NIH_MGC_12 Homo sapiens cDNA clone IMAGE:3456280 5                |
| 8704             | 21396           | 34543          | 4.92              | 1.0E-74                              | AF214862.1            | NT                      | Homo sapiens tracheal epithelium enriched protein (PLUNC) gene, complete cds |
| 8733             | 21425           | 34571          | 0.66              | 1.0E-74                              | BP31951.1             | EST_HUMAN               | MR04-HT0559-230500-021-a03 HT0559 Homo sapiens cDNA                          |
| 10140            | 22788           | 36001          | 0.55              | 1.0E-74                              | AJ251550.1            | NT                      | Homo sapiens partial AK155 gene for AK155 protein, exons 1-3 and joined CDS  |
| 10140            | 22788           | 36002          | 0.55              | 1.0E-74                              | AJ251550.1            | NT                      | Homo sapiens partial AK155 gene for AK155 protein, exons 1-3 and joined CDS  |
| 10380            | 23026           | 36241          | 1.38              | 1.0E-74                              | 11420549              | NT                      | Homo sapiens hypothetical protein FLJ10783 (FLJ10783), mRNA                  |

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**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|--|
| 11985            | 24488           | 37800          | 2.92              | 1.0E-74                          | 11417856              | NT                      | Homo sapiens glutathione S-transferase theta 2 (GSTT2), mRNA   |
| 11985            | 24513           |                | 5.01              | 1.0E-74                          | 11417856              | NT                      | Homo sapiens glutathione S-transferase theta 2 (GSTT2), mRNA   |
| 12103            | 14981           | 27690          | 1.58              | 1.0E-74                          | AB00269.1             | NT                      | Homo sapiens DNA for Human P2Xm, complete cds  |
| 12587            | 24897           |                | 1.53              | 1.0E-74                          | AF240786.1            | NT                      | Homo sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1) genes, complete cds |
| 2850             | 15360           |                | 3.68              | 8.0E-76                          | AF176228.1            | NT                      | Homo sapiens DNA cytosine-5 methyltransferase 3B (DNMT3B), mRNA, complete cds  |
| 12254            | 24700           |                | 1.86              | 8.0E-75                          | AL183202.2            | NT                      | Homo sapiens chromosome 21 segment HS21C002  |
| 2319             | 15044           | 27781          | 1.47              | 6.0E-75                          | AI817445.1            | EST_HUMAN               | Wk38e08_x1 NCI_CGAP_Pt22 Homo sapiens cDNA clone IMAGE:2417854 3' similar to gb:NM14123_cds4                             |
| 7688             | 20352           | 33466          | 0.61              | 5.0E-75                          | AA573446.1            | EST_HUMAN               | RETROVIRUS-RELATED POLYPROTEIN (HUMAN); nt8ed03_31 NCI_CGAP_C03 Homo sapiens cDNA clone IMAGE:1028933 3'                 |
| 7688             | 20352           | 33467          | 0.61              | 5.0E-75                          | AA573446.1            | EST_HUMAN               | nt8ed03_31 NCI_CGAP_C03 Homo sapiens cDNA clone IMAGE:1028933 3'   |
| 8808             | 21498           | 34643          | 0.94              | 5.0E-75                          | BE27223.1             | EST_HUMAN               | 601125098F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:2889865 5'   |
| 9016             | 21705           | 34855          | 0.6               | 6.0E-75                          | AA132611.1            | EST_HUMAN               | 2017608.1 Stratagene colon (#837704) Homo sapiens cDNA clone IMAGE:687174 6'   |
| 9083             | 21782           | 34946          | 0.78              | 5.0E-75                          | BE561655.1            | EST_HUMAN               | 601346909F1 NIH_MGC_8 Homo sapiens cDNA clone IMAGE:3687498 5'   |
| 9083             | 21782           | 34947          | 0.78              | 5.0E-75                          | BE561655.1            | EST_HUMAN               | 601346909F1 NIH_MGC_8 Homo sapiens cDNA clone IMAGE:3687498 5'   |
| 9273             | 22027           | 35197          | 1.53              | 6.0E-75                          | BF690254.1            | EST_HUMAN               | 6021186816T1 NIH_MGC_49 Homo sapiens cDNA clone IMAGE:4298738 3'   |
| 10134            | 22782           | 35569          | 2.39              | 5.0E-75                          | AI838623.1            | EST_HUMAN               | #31c12_x1 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE:2242380 3' similar to TR:PR97361 PR97361                            |
| 110              | 12831           | 25568          | 2.16              | 4.0E-75                          | BE081333.1            | EST_HUMAN               | HYPOTHETICAL PROTEIN; QV1-BT0632-210200-079-602 BT0632_Homo sapiens cDNA clone IMAGE:2889855 6                           |
| 446              | 13232           |                | 1.02              | 4.0E-75                          | N36757.1              | EST_HUMAN               | Y80108_1f Saccharomyces cerevisiae 2NbbfM_Homo sapiens cDNA clone IMAGE:3689344 5'                                       |
| 1759             | 14501           | 27202          | 1.5               | 4.0E-75                          | AW897230.1            | EST_HUMAN               | CMD-NN0057-150400-335-a11 NI0057_Homo sapiens cDNA clone IMAGE:2889855 6   |
| 2853             | 15621           | 28260          | 4.89              | 4.0E-75                          | BE409464.1            | EST_HUMAN               | 601303868F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3689344 5'  |
| 3492             | 16248           | 28802          | 0.94              | 4.0E-75                          |                       | 88222637_NT             | Homo sapiens hypothetical protein FL_J10747 (FLJ10747), mRNA   |
| 5442             | 18241           | 31128          | 0.56              | 4.0E-75                          |                       | '11417946_NT            | Homo sapiens NIPSNAP, C. elegans, homolog 1 (NIPSNAP1), mRNA   |
| 5442             | 18241           | 31128          | 0.56              | 4.0E-75                          |                       | '11417946_NT            | Homo sapiens NIPSNAP, C. elegans, homolog 1 (NIPSNAP1), mRNA   |
| 6178             | 18853           | 31926          | 5.73              | 4.0E-75                          |                       | 5579457_NT              | Homo sapiens eukaryotic translation Initiation factor 3, subunit 8 (110KD) (EIF3S8), mRNA                                |
| 6861             | 19421           | 32246          | 2.23              | 4.0E-75                          |                       | '11417946_NT            | Homo sapiens NIPSNAP, C. elegans, homolog 1 (NIPSNAP1), mRNA   |
| 6861             | 19421           | 32437          | 2.23              | 4.0E-75                          |                       | '11417946_NT            | Homo sapiens NIPSNAP, C. elegans, homolog 1 (NIPSNAP1), mRNA   |
| 10584            | 23279           | 36517          | 18.12             | 4.0E-75                          |                       | 7669505_NT              | Homo sapiens myosin heavy polypeptide 1, skeletal muscle, adult (MYH1), mRNA   |
| 982              | 13747           | 28409          | 3.72              | 3.0E-75                          | AF157623.1            | NT                      | Homo sapiens HTRA serine protease (PRSS11) gene, complete cds  |
| 983              | 13747           | 28409          | 2.41              | 3.0E-75                          | AF157623.1            | NT                      | Homo sapiens HTRA serine protease (PRSS11) gene, complete cds  |
| 1828             | 14667           | 27278          | 2.78              | 3.0E-75                          | AB011153.1            | NT                      | Homo sapiens mRNA for KIAA0581 protein, partial cds  |
| 2105             | 14826           | 27570          | 1.11              | 3.0E-75                          | 4507334_NT            |                         | Homo sapiens synaptotagmin 1 (SYNU1), mRNA   |
| 2422             | 15143           | 27876          | 5.86              | 3.0E-75                          | 4759153_NT            |                         | Homo sapiens synaptosomal-associated protein, 28kD (SNAP28), mRNA  |

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Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Meet Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|---|
| 3021             | 15787           | 28484          | 0.97              | 3.0E-75                    | AL1632012             | NT                      | Homo sapiens chromosome 21 segment HS21C001   |
| 3184             | 15947           | 28597          | 1.32              | 3.0E-75                    | AB011153.1            | NT                      | Homo sapiens mRNA for KIAA0581 protein, partial cds   |
| 3345             | 16104           | 28757          | 0.75              | 3.0E-75                    | M72983.1              | NT                      | Human calcium-dependent phospholipid-binding protein (PLA2) mRNA, complete cds  |
| 3345             | 16104           | 28758          | 0.75              | 3.0E-75                    | M72983.1              | NT                      | Human calcium-dependent phospholipid-binding protein (PLA2) mRNA, complete cds  |
| 4147             | 16889           | 28521          | 3.27              | 3.0E-75                    | D87975.1              | NT                      | Homo sapiens DNA for amyloid precursor protein, complete cds  |
| 4404             | 17141           | 29789          | 0.73              | 3.0E-75                    | 7682424               | NT                      | Homo sapiens KIAA0971 protein (KIAA0971), mRNA  |
| 5171             | 17880           | 30483          | 0.83              | 3.0E-75                    | 114209856             | NT                      | Homo sapiens adaptor-related protein complex 1, sigma 2 subunit (AP1S2), mRNA   |
| 6171             | 17880           | 30484          | 0.83              | 3.0E-75                    | 114209856             | NT                      | Homo sapiens adaptor-related protein complex 1, sigma 2 subunit (AP1S2), mRNA   |
| 6671             | 19598           | 32623          | 1.88              | 3.0E-75                    | 11626319              | NT                      | Homo sapiens HIR (histone cell cycle regulation defective, S. cerevisiae) homolog A (HIRA), mRNA                            |
| 6671             | 19598           | 32624          | 1.93              | 3.0E-75                    | 11526319              | NT                      | Homo sapiens HIR (histone cell cycle regulation defective, S. cerevisiae) homolog A (HIRA), mRNA                            |
| 7035             | 19727           | 32783          | 4.93              | 3.0E-75                    | 7682209               | NT                      | Homo sapiens KIAA0623 gene product (KIAA0623), mRNA   |
| 7035             | 19727           | 32784          | 4.93              | 3.0E-75                    | 7682209               | NT                      | Homo sapiens KIAA0623 gene product (KIAA0623), mRNA   |
| 7622             | 20183           | 33284          | 2.52              | 3.0E-75                    | 4885632               | NT                      | Homo sapiens Oncogene TIM (TIM) mRNA  |
| 7522             | 20183           | 33285          | 2.52              | 3.0E-75                    | 4885632               | NT                      | Homo sapiens Oncogene TIM (TIM) mRNA  |
| 8883             | 21574           | 34717          | 1.21              | 3.0E-76                    | 11420804              | NT                      | Homo sapiens snail 1 (drosophila homolog), zinc finger protein (SNAIL), mRNA  |
| 8577             | 22230           | 35614          | 0.77              | 3.0E-75                    | 11420222              | NT                      | Homo sapiens Drosophila Ketch like protein (DKEI CHL), mRNA   |
| 10440            | 23086           | 36314          | 2.28              | 3.0E-75                    | 11438430              | NT                      | Homo sapiens synuclein, alpha (non A4 component of amyloid precursor) (SNCA), mRNA  |
| 5387             | 18384           |                | 1.41              | 2.0E-76                    | AV734680.1            | EST_HUMAN               | AV734680 cDNA clone cdABED02' 5'  |
| 8648             | 21340           | 34484          | 2.43              | 2.0E-75                    | AI311783.1            | EST_HUMAN               | qp91602.x1 NCI_OGAP_Kits Homo sapiens cDNA clone IMAGE:1915888 3' similar to TR:Q68388 Q68388 POLYENV GENE;                 |
| 2076             | 14808           | 27539          | 1.12              | 1.0E-75                    | 4606328               | NT                      | Homo sapiens protein tyrosine phosphatase, receptor-type, zeta polypeptide 1 (PTPRZ1) mRNA                                  |
| 2076             | 14808           | 27640          | 1.12              | 1.0E-75                    | 4506328               | NT                      | Homo sapiens protein tyrosine phosphatase, receptor-type, zeta polypeptide 1 (PTPRZ1) mRNA                                  |
| 2301             | 15026           | 27782          | 6.88              | 1.0E-75                    | AW168136.1            | EST_HUMAN               | qp60002.x1 NCI_OGAP_U14 Homo sapiens cDNA clone IMAGE:2832707 3' similar to contains P1TR7.11 PTR7 repetitive element;      |
| 2847             | 15713           | 28368          | 3.27              | 1.0E-75                    | X52221.1              | NT                      | H_sapiens ERCC2 gene, exons 1 & 2 (partial)   |
| 8313             | 21008           |                | 4.27              | 1.0E-75                    | AA389270.1            | EST_HUMAN               | Z577003.s1 Scores test8_NHT Homo sapiens cDNA clone IMAGE:728485 3' similar to gb:M13862 40S RIBOSOMAL PROTEIN S17 (HUMAN); |
| 8328             | 21985           | 35167          | 3.75              | 1.0E-75                    | BF313846.1            | EST_HUMAN               | 601800284F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:4128678 5'   |
| 8328             | 21985           | 36168          | 3.75              | 1.0E-75                    | BF313845.1            | EST_HUMAN               | 601800284F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:4128678 5'   |
| 10797            | 23480           |                | 10.83             | 1.0E-73                    | AA684377.1            | EST_HUMAN               | sc77508.s1 Strategene lung (#837210) Homo sapiens cDNA clone IMAGE:868569 3'  |
| 11033            | 23704           | 36972          | 2.58              | 1.0E-75                    | AF2223391.1           | NT                      | Homo sapiens calcium channel epsilon E subunit (CACNA1E) gene, exons 7-40, and partial cds, alternatively spliced           |

Table 4.  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Meet Similar BLAST E Value | (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-------------------------|-----------------------|---|--|
| 11860            | 24444           | 37785          | 1.38              | 1.0E-76                    | AA417112.1              | EST_HUMAN             | z04603J1 Scores testis_NI-T Homo sapiens cDNA clone IMAGE:730829 5'   |  |
| 12152            | 17912           | 30593          | 1.64              | 1.0E-75                    | BE894192.1              | EST_HUMAN             | 601437130F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3922303 5'   |  |
| 43               | 12872           | 25493          | 1.24              | 9.0E-76                    | AI852848.1              | EST_HUMAN             | WB30b10_x1 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE:2307163 3' similar to TR:076235 O75235                    |  |
| 43               | 12872           | 25494          | 1.24              | 9.0E-76                    | AI852848.1              | EST_HUMAN             | WB30b10_x1 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE:2307163 3' similar to TR:076235 O75235                    |  |
| 98001            | 22452           | 35654          | 43.62             | 9.0E-76                    | MI12837.1               | NT                    | Human ferritin Heavy subunit mRNA, complete cds   |  |
| 9117             | 13684           | 28347          | 1.08              | 8.0E-76                    | 4504374                 | NT                    | Homo sapiens H factor 1 (complement) (HF1) mRNA   |  |
| 9117             | 13684           | 28348          | 1.08              | 8.0E-76                    | 4504374                 | NT                    | Homo sapiens H factor 1 (complement) (HF1) mRNA   |  |
| 28910            | 15676           | 28325          | 1                 | 8.0E-76                    | 7706724                 | NT                    | Homo sapiens mediator (Sur2), mRNA  |  |
| 6079             | 18858           | 31825          | 6.38              | 8.0E-76                    | 11421142                | NT                    | Homo sapiens LIM domain kinase 1 (LIMK1), mRNA  |  |
| 7388             | 20067           | 33143          | 1.28              | 8.0E-76                    | 11435215                | NT                    | Homo sapiens sarco(endo)kinase 2 (STK2), mRNA   |  |
| 7465             | 20139           | 33231          | 0.86              | 8.0E-76                    | 11419212                | NT                    | Homo sapiens mitochondrial carrier family protein (LOC55972), mRNA  |  |
| 8195             | 20889           | 34027          | 0.67              | 8.0E-76                    | 11416981                | NT                    | Homo sapiens AIM-1 Protein (LOC51151), mRNA   |  |
| 8895             | 21685           | 34835          | 0.65              | 8.0E-76                    | AB046784.1              | NT                    | Homo sapiens mRNA for KIAA1544 protein, partial cds   |  |
| 10277            | 22825           | 38137          | 1.35              | 8.0E-76                    | MI13782.1               | NT                    | Human adenosine deaminase (ADA) gene, complete cds  |  |
| 10584            | 23260           | 36497          | 4.81              | 8.0E-76                    | 10442821                | NT                    | Homo sapiens baculofinal IAP repeat-containing 6 (BIRC8), mRNA  |  |
| 12491            | 24849           |                | 2                 | 8.0E-76                    | 11417882                | NT                    | Homo sapiens cathepsin binding protein 1 (KIAA0330), mRNA   |  |
|                  |                 |                |                   |                            |                         |                       |   | Homo sapiens dihydripipamite dehydrogenase (IE3 component of pyruvate dehydrogenase complex, 2 <sup>nd</sup> glutarate complex, branched chain keto acid dehydrogenase complex) (DLD) mRNA |
| 759              | 13531           | 26191          | 1.41              | 7.0E-76                    | 50160392                | NT                    | Homo sapiens cAMP-specific phosphodiesterase 8A (PDE8A) mRNA, partial cds                                       |  |
| 3288             | 16049           | 28697          | 2.97              | 7.0E-76                    | AF056490.1              | NT                    | Homo sapiens lymphocyte antigen 76 (LY76) mRNA, and translated products   |  |
| 3294             | 16055           | 28704          | 7.55              | 7.0E-76                    | 4505052                 | NT                    | Homo sapiens core-binding factor, runt domain, alpha subunit 2; translocated to; cyclin D-related (CBFA21) mRNA |  |
| 3330             | 16050           | 28743          | 0.93              | 7.0E-76                    | 4757915                 | NT                    | Human sepiapterin reductase (7,8-dihydrobiopterin:NADP+ oxidoreductase) (SPR) mRNA                              |  |
| 4338             | 17077           | 29706          | 4.73              | 7.0E-76                    | 4507184                 | NT                    | Human sepiapterin reductase (7,8-dihydrobiopterin:NADP+ oxidoreductase) (SPR) mRNA                              |  |
| 4338             | 17077           | 29708          | 4.73              | 7.0E-76                    | 4507184                 | NT                    | Human sepiapterin reductase (7,8-dihydrobiopterin:NADP+ oxidoreductase) (SPR) mRNA                              |  |
| 1212             | 13962           |                | 31.63             | 6.0E-76                    | BE396233.1              | EST_HUMAN             | 601312019F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3658757 5'   |  |
| 11442            | 23209           | 36440          | 3.78              | 6.0E-76                    | BE273201.1              | EST_HUMAN             | 601142253F1 NIH_MGC_14 Homo sapiens cDNA clone IMAGE:3508029 5'   |  |
| 1638             | 14671           | 27385          | 4.83              | 5.0E-76                    | D63874.1                | NT                    | Human mRNA for HMG-1, complete cds  |  |
| 1638             | 14671           | 27386          | 4.83              | 5.0E-76                    | D63874.1                | NT                    | Human mRNA for HMG-1, complete cds  |  |
| 1638             | 14671           | 27387          | 4.83              | 5.0E-76                    | D63874.1                | NT                    | Human mRNA for HMG-1, complete cds  |  |
| 5188             | 17898           | 30512          | 1.28              | 4.0E-76                    | BE783412.1              | EST_HUMAN             | 601471725F1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE:3874470 5'   |  |
| 8923             | 22571           | 35768          | 6.42              | 4.0E-76                    | D81625.1                | EST_HUMAN             | HUM78G01B Human fetal brain (T Fujiiwara) Homo sapiens cDNA clone GEN-178G01 5'                                 |  |

Table 4  
Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|--|---|
| 90223            | 22571           | 35768          | 6.42              | 4.0E-76                    | D81625.1              | EST_HUMAN  | HUM178G01B Human fetal brain (T Fujiiwara) Homo sapiens cDNA clone GEN-178G011'5'   |
| 615              | 133983          | 28026          | 3.2               | 3.0E-76                    | BF516282.1            | EST_HUMAN  | U+H-BW1_4n2-b-04-0-U1.s1 NCI_CGAP_Sub7 Homo sapiens cDNA clone IMAGE:3083862'3'   |
| 615              | 133983          | 28027          | 3.2               | 3.0E-76                    | BF516282.1            | EST_HUMAN  | U+H-BW1_4n2-b-04-0-U1.s1 NCI_CGAP_Sub7 Homo sapiens cDNA clone IMAGE:3083862'3'   |
| 1584             | 14240           | 27029          | 3.28              | 3.0E-76                    | 4503476 NT            | Homo sapiens eukaryotic translation elongation factor 1 beta 2 (EEF1B2) mRNA |   |
| 1584             | 14240           | 27030          | 3.28              | 3.0E-76                    | 4503476 NT            | Homo sapiens eukaryotic translation elongation factor 1 beta 2 (EEF1B2) mRNA |   |
| 3422             | 16179           | 28828          | 4.98              | 3.0E-76                    | BF375689.1            | EST_HUMAN  | RC5-STR030-180100-033-A03 STC300 Homo sapiens cDNA  |
| 3422             | 16179           | 28829          | 4.98              | 3.0E-76                    | BF376689.1            | EST_HUMAN  | RC5-STR030-180100-033-A03 STC300 Homo sapiens cDNA  |
| 4058             | 16803           | 29434          | 1.07              | 3.0E-76                    | BE348683.1            | EST_HUMAN  | KIAA0792 PROTEIN  |
| 5158             | 17891           | 37796          | 2.07              | 3.0E-76                    | Z41314.1              | EST_HUMAN  | HSC2QD042 normalized Infant brain cDNA Homo sapiens cDNA clone o-2q404'3'   |
| 5646             | 18441           | 31354          | 1.08              | 3.0E-76                    | AA160811.1            | EST_HUMAN  | z075c07.1 Strategene pancreas (#37208) Homo sapiens cDNA clone IMAGE:562524'5' similar to gbl32976 MIXED LINEAGE KINASE 1 (HUMAN); h67112.x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3151823'3' similar to TR:084888 084888 |
| 62275            | 19048           | 32025          | 9.57              | 3.0E-76                    | AF288598.1            | NT   | Homo sapiens angiostatin binding protein 1 mRNA, complete cds   |
| 8050             | 20744           | 33877          | 0.98              | 3.0E-76                    | N42871.1              | EST_HUMAN  | yy20g10..1t Scores melanocyte_2Nt H1M Homo sapiens cDNA clone IMAGE:271842'5'   |
| 9816             | 22269           | 35458          | 3.34              | 3.0E-76                    | AW298353.1            | EST_HUMAN  | xs4ph01.x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:2775009'3'  |
| 9841             | 22293           | 35486          | 0.98              | 3.0E-76                    | AA442309.1            | EST_HUMAN  | zv5d11..1t Scores _tests_NHT Homo sapiens cDNA clone IMAGE:757461'5'  |
| 9841             | 22293           | 35487          | 0.99              | 3.0E-76                    | AA442309.1            | EST_HUMAN  | zv5d11..1t Scores _tests_NHT Homo sapiens cDNA clone IMAGE:757461'5'  |
| 11876            | 25191           | 30812          | 1.93              | 3.0E-76                    | AW967984.1            | EST_HUMAN  | EST380059 MAGE sequences, MAGU Homo sapiens cDNA  |
| 11979            | 25398           | 30602          | 4.88              | 3.0E-76                    | AW958455.1            | EST_HUMAN  | EST388525 MAGE sequences, MAGD Homo sapiens cDNA  |
| 2776             | 19082           | 25725          | 1.59              | 2.0E-76                    | D84295.1              | NT   | Human mRNA for possible protein TPRDII, complete cds  |
| 333              | 13134           | 25768          | 4.39              | 2.0E-76                    | D84295.1              | NT   | Human mRNA for possible protein TPRDII, complete cds  |
| 333              | 13134           | 25769          | 4.39              | 2.0E-76                    | D84295.1              | NT   | Human mRNA for possible protein TPRDII, complete cds  |
| 448              | 13234           |                | 1.19              | 2.0E-76                    | 4557682 NT            | Homo sapiens immunoglobulin (CD79A) binding protein 1 (IGBP1) mRNA           |   |
| 5776             | 13356           | 25984          | 1.08              | 2.0E-76                    | 452944 NT             | Homo sapiens glucagon (GCG) mRNA   |   |
| 1008             | 13768           | 28430          | 1                 | 2.0E-76                    | 4758053 NT            | Homo sapiens cAMP responsive element binding protein 1 (CREB1) mRNA          |   |
| 1526             | 14273           | 26960          | 1.91              | 2.0E-76                    | 4504028 NT            | Homo sapiens GM2 ganglioside activator protein (GM2A) mRNA                   |   |
| 1526             | 14273           | 26981          | 1.91              | 2.0E-76                    | 4504028 NT            | Homo sapiens GM2 ganglioside activator protein (GM2A) mRNA                   |   |
| 1921             | 14658           | 27368          | 0.91              | 2.0E-76                    | AA253364.1            | EST_HUMAN  | zs50h11.s1 Strategene schizo brain S11 Homo sapiens cDNA clone IMAGE:7010225'3'   |
| 2846             | 15614           | 28261          | 3.34              | 2.0E-76                    | F23268                | SWISSPROT  | OLFFACTORY RECEPTOR-LIKE PROTEIN F5   |
| 3291             | 16052           | 28701          | 2.06              | 2.0E-76                    | AA445982.1            | EST_HUMAN  | zm84e02.s1 Scores _tests_NHT Homo sapiens cDNA clone IMAGE:780988'3' similar to SW:JTBS5_HUMAN P18084 INTEGRIN BETA-5 SUBUNIT PRECURSOR;  |
| 3291             | 16052           | 28702          | 2.06              | 2.0E-76                    | AA445982.1            | EST_HUMAN  | zm84e02.s1 Scores _tests_NHT Homo sapiens cDNA clone IMAGE:780988'3' similar to SW:JTBS5_HUMAN P18084 INTEGRIN BETA-5 SUBUNIT PRECURSOR;  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|--|--|
| 3469 16225       | 28879           | 0.97           | 2.0E-78           | AI821149.1                       | EST_HUMAN             | O14591 SIMILARITY TO P22059;   | ac83b02,5 Stratogene lung #8317210 Homo sapiens cDNA clone IMAGE:8889163 5' similar to TR:Q14591 |
| 4114 13082       | 25725           | 1.23           | 2.0E-78           | D84225.1                         | NT                    | Human mRNA for possible protein TPRDI, complete cds  |  |
| 4895 176222      | 30240           | 6.21           | 2.0E-78           | AW879618.1                       | EST_HUMAN             | QV3-0T0028-220300-132-b11 OT0028 Homo sapiens cDNA   |  |
| 5055 17774       | 30390           | 1.49           | 2.0E-78           | 5C81660                          | NT                    | Homo sapiens EGF-like repeats and discoidin 1-like domains 3 (EDIL3), mRNA   |  |
| 6228 18033       |                 | 1.6            | 2.0E-78           | AF127845.1                       | NT                    | Gorilla gorilla olfactory receptor (GCO18) gene, partial cds   |  |
| 5531 18329       | 31233           | 6.47           | 2.0E-78           | AB022004.1                       | NT                    | Homo sapiens mRNA for KIAA1081 protein, partial cds  |  |
| 7334 20016       | 33094           | 0.75           | 2.0E-78           | 11426908                         | NT                    | Homo sapiens A kinase (PRKA) anchor protein 10 (AKAP10), mRNA  |  |
| 7560 20230       | 33333           | 1.91           | 2.0E-78           | 11427410                         | NT                    | Homo sapiens TPCR86 protein (HSTPCR86P), mRNA  |  |
| 10182 22830      | 36045           | 3.53           | 2.0E-78           | 11497211                         | NT                    | Homo sapiens similar to ribosomal protein S28 (H. sapiens) (LOC83160), mRNA  |  |
| 10839 28521      | 36763           | 3.58           | 2.0E-78           | 7549807                          | NT                    | Homo sapiens HIRA interacting protein 4 (dnad-Like) (HIRIP4), mRNA   |  |
| 4285 17038       | 28636           | 2.38           | 1.0E-70           | D63874.1                         | NT                    | Human mRNA for HMGB-1, complete cds  |  |
| 4285 17038       | 29639           | 2.38           | 1.0E-70           | D63874.1                         | NT                    | Human mRNA for HMGB-1, complete cds  |  |
| 5362 18164       | 30849           | 6.12           | 1.0E-70           | BE796537.1                       | EST_HUMAN             | 60158896F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:3944302 5'  |  |
| 6150 18927       |                 | 0.72           | 1.0E-70           | AA333207.1                       | EST_HUMAN             | EST37301 Embryo, 8 week   Homo sapiens cDNA 5' end   |  |
| 6825 19486       | 32508           | 4.53           | 9.0E-77           | BE889525.1                       | EST_HUMAN             | 601512435F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:3913737 5'  |  |
| 12644 24941      |                 | 1.4            | 9.0E-77           | BE410364.1                       | EST_HUMAN             | 601302333F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3636773 5'  |  |
| 182 12894        | 25633           | 0.92           | 8.0E-77           | R83144.1                         | EST_HUMAN             | Y111H02.71 Soares breast 3NbHBst Homo sapiens cDNA clone IMAGE:187155 5' similar to SP-ANKB_HUMAN Q01484 ANKYRIN, BRAIN VARIANT 1; |  |
| 4486 17221       | 29849           | 1.09           | 8.0E-77           | BF205181.1                       | EST_HUMAN             | 601868926F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:4109503 5'  |  |
| 5366 18168       | 30854           | 1.74           | 8.0E-77           | 4506220                          | NT                    | Homo sapiens proteasome (prosome, macropain) 26S subunit, non-ATPase, 7 (Mac34 homolog) (PSMD7) mRNA                               |  |
| 11360 24048      | 37351           | 1.91           | 8.0E-77           | AA019770.1                       | EST_HUMAN             | 2e62e02.71 Soares retina N2b4HR Homo sapiens cDNA clone IMAGE:2633578 5'   |  |
| 11360 24048      | 37352           | 1.91           | 8.0E-77           | AA019770.1                       | EST_HUMAN             | 2e62e02.71 Soares retina N2b4HR Homo sapiens cDNA clone IMAGE:2633578 5'   |  |
| 12620 24925      | 31008           | 4.02           | 8.0E-77           | R00245.1                         | EST_HUMAN             | ye69104.s1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:123007 3' similar to contains MER10 repetitive element;   |  |
| 1822 14859       | 27370           | 2.4            | 7.0E-77           | AA625755.1                       | EST_HUMAN             | zle19101.s1 Soares testis_NHT Homo sapiens cDNA clone IMAGE:746392 3'  |  |
| 2411 16132       | 27868           | 2.62           | 7.0E-77           | 4505944                          | NT                    | Homo sapiens polymerase (RNA) II (DNA directed) polypeptide E (25kD) (POLR2E) mRNA   |  |
| 2411 16132       | 27869           | 2.62           | 7.0E-77           | 4505944                          | NT                    | Homo sapiens interferon (alpha, beta and omega) receptor 2 (IFNAR2) mRNA   |  |
| 2568 13084       | 25703           | 8.53           | 8.0E-77           | 4504600                          | NT                    | Homo sapiens mRNA for fibroblast growth factor 11 (FGF11) mRNA   |  |
| 1534 14281       | 26969           | 3.22           | 8.0E-77           | AI204068.1                       | EST_HUMAN             | qe77112.11 Soares fetal lung NbHL19W Homo sapiens cDNA clone IMAGE:1745083 3'  |  |
| 1214 13984       | 26831           | 2.11           | 5.0E-77           | AF041015.1                       | NT                    | 7 Homo sapiens glucokinase (GCK) gene, exon 2  |  |
| 1339 14087       | 26763           | 1.77           | 5.0E-77           | 4557250                          | NT                    | Homo sapiens disintegrin and metalloprotease domain 10 (ADAM10) mRNA   |  |
| 2691 16400       | 28139           | 0.98           | 5.0E-77           | AF162686.1                       | NT                    | Homo sapiens taurine-like kinase 1 (TLK1) mRNA, complete cds   |  |

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Table 4

## Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|---|
| 2767             | 15472       | 28214          | 0.99              | 5.0E-77                          | 4503160               | NT                      | Homo sapiens cullin 1 (CUL1) mRNA   |
| 3512             | 16268       | 28923          | 0.89              | 5.0E-77                          | 8394518               | NT                      | Homo sapiens ubiquitin specific protease 18 (USP18), mRNA   |
| 4655             | 17389       | 30022          | 2.47              | 5.0E-77                          | 5031680               | NT                      | Homo sapiens EGF-like repeats and discoidin-Like domains 3 (EDIL3), mRNA  |
| 4655             | 17389       | 30023          | 2.47              | 5.0E-77                          | 5031680               | NT                      | Homo sapiens EGF-like repeats and discoidin-Like domains 3 (EDIL3), mRNA  |
| 4894             | 17811       | 30231          | 2.98              | 5.0E-77                          | ALD43953.1            | EST_HUMAN               | DKFZp434G172B_1434 (synonym: hesc3) Homo sapiens cDNA clone DKFZp434G172B_5   |
| 6886             | 19803       | 32842          | 0.57              | 5.0E-77                          | M13975.1              | NT                      | Homo sapiens protein kinase C beta-II type (PRKCB1) mRNA, complete cds  |
| 7730             | 20393       | 33508          | 0.59              | 5.0E-77                          | 89223319              | NT                      | Homo sapiens hypothetical protein FLJ20343 (FLJ20343), mRNA   |
| 8268             | 20960       | 34089          | 1.28              | 5.0E-77                          | 11428949              | NT                      | Homo sapiens 3-hydroxyisobutyryl-Coenzyme A hydroxylase (HIBCH), mRNA   |
| 8268             | 20960       | 34100          | 1.28              | 5.0E-77                          | 11428949              | NT                      | Homo sapiens 3-hydroxyisobutyryl-Coenzyme A hydroxylase (HIBCH), mRNA   |
| 9469             | 22078       | 35249          | 2.48              | 5.0E-77                          | 11421928              | NT                      | Homo sapiens hypothetical protein SNX5, mRNA  |
| 9469             | 22078       | 35250          | 2.48              | 5.0E-77                          | 11421928              | NT                      | Homo sapiens sorting protein SNX5, mRNA   |
| 10388            | 23034       | 36248          | 1.22              | 5.0E-77                          | AB002297.1            | NT                      | Human mRNA for KIAA0229 gene, partial cds   |
| 10388            | 23034       | 36250          | 1.22              | 5.0E-77                          | AB002297.1            | NT                      | Human mRNA for KIAA0229 gene, partial cds   |
| 11794            | 24384       | 37716          | 3.12              | 5.0E-77                          | U37194.1              | NT                      | Human UNC-104- and KIF1A-related protein mRNA, partial cds  |
| 11794            | 24384       | 37717          | 3.12              | 5.0E-77                          | U37194.1              | NT                      | Human UNC-104- and KIF1A-related protein mRNA, partial cds  |
| 1985             | 14701       | 27417          | 1.09              | 3.0E-77                          | 57300338              | NT                      | Homo sapiens SET domain and meiinter transposase fusion gene (SETMAR) mRNA  |
| 1985             | 14701       | 27418          | 1.09              | 3.0E-77                          | 57300338              | NT                      | Homo sapiens SET domain and meiinter transposase fusion gene (SETMAR) mRNA  |
| 10188            | 22838       | 36050          | 0.79              | 3.0E-77                          | H65167.1              | EST_HUMAN               | SP:SI7447 SP17447 PROBABLE LIGAND-BINDING PROTEIN RY2G5 - ; yR4g01.11 Welzmann Olfactory Epithelium Homo sapiens cDNA clone IMAGE-2388608 5' similar to SP:SI7447 SP17447 PROBABLE LIGAND-BINDING PROTEIN RY2G5 - ; |
| 10188            | 22838       | 36051          | 0.79              | 3.0E-77                          | H65167.1              | EST_HUMAN               | SP:SI7447 SP17447 PROBABLE LIGAND-BINDING PROTEIN RY2G5 - ;   |
| 10785            | 23468       | 36709          | 3.58              | 3.0E-77                          | BF356917.1            | EST_HUMAN               | PM3-MT0078-080800-005-903 MT0078 Homo sapiens cDNA  |
| 1330             | 14079       | 26763          | 1.4               | 2.0E-77                          | AV784617.1            | EST_HUMAN               | AV784617 MDS Homo sapiens cDNA clone MDSBT10.5  |
| 1412             | 14160       | 26844          | 1.91              | 2.0E-77                          | AW897712.1            | EST_HUMAN               | RC3-BN0053-170220-011-h01 BN0053 Homo sapiens cDNA  |
| 2084             | 14816       | 27548          | 1.13              | 2.0E-77                          | L41825.1              | NT                      | Homo sapiens CYP17 gene, 5' end   |
| 2098             | 14827       | 27560          | 6.23              | 2.0E-77                          | 7708315               | NT                      | Homo sapiens C31-78 protein (LOC51634), mRNA  |
| 2602             | 15589       | 28053          | 1.92              | 2.0E-77                          | AB037836.1            | NT                      | Homo sapiens mRNA for KIAA1415 protein, partial cds   |
| 2602             | 15589       | 28054          | 1.92              | 2.0E-77                          | AB037836.1            | NT                      | Homo sapiens mRNA for KIAA1415 protein, partial cds   |
| 4012             | 16758       | 28398          | 1.98              | 2.0E-77                          | BE044316.1            | EST_HUMAN               | h043b05_x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE-3040113 3' similar to SW:GAG2_HUMAN P10264 RETROVIRUS-RELATED GAG POLYPEPTIDE;   |
| 4379             | 17116       | 29749          | 0.74              | 2.0E-77                          | A1613519.1            | EST_HUMAN               | W22g02-x1 NCL_CGAP_Bm52 Homo sapiens cDNA clone IMAGE-2260468 3' similar to TR:O65245_O65245 F21E10.7 PROTEIN ;   |
| 4379             | 17116       | 29750          | 0.74              | 2.0E-77                          | A1613519.1            | EST_HUMAN               | W22g02-x1 NCL_CGAP_Bm52 Homo sapiens cDNA clone IMAGE-2260468 3' similar to TR:O65245_O65245 F21E10.7 PROTEIN ;   |

**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |  |
|------------------|---------------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|--|
| 4657 17282       |                     | 0.98              | 2.0E-77                              | 4504068 NT            |                         | Homo sapiens glutamino>oxaloacetic transaminase 2, mitochondrial (aspartate aminotransferase 2) (GOT2), nuclear gene encoding mitochondrial protein, mRNA                 |  |
| 4717 17449       | 30082               | 1.59              | 2.0E-77                              | AA653025.1            | EST_HUMAN               | ns08gr12.81 NCI_CGAP_Pt12 Homo sapiens cDNA clone IMAGE:11888388 similar to SW:RL29_HUMAN P47914_60S RIBOSOMAL PROTEIN L29. [1] contains element NSR1 repetitive element; |  |
| 58865 18652      | 31593               | 1.9               | 2.0E-77                              | BE288940.1            | EST_HUMAN               | 601118852F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:30284386 5   |  |
| 60880 18859      | 31826               | 1.73              | 2.0E-77                              | BE787143.1            | EST_HUMAN               | 601476802F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3878505 5  |  |
| 7074 18785       | 32826               | 15.45             | 2.0E-77                              | A1833003.1            | EST_HUMAN               | at74d09.x1 Barstead color HPLRB1/Homo sapiens cDNA clone IMAGE:2377720 3' similar to TRCQ13311 Q13311 TAX1-BINDING PROTEIN TXBP1 51. [1];                                 |  |
| 8427 21120       | 34259               | 0.82              | 2.0E-77                              | A13622707.1           | EST_HUMAN               | Q770c09.x1 NCI_CGAP_Bmz25 Homo sapiens cDNA clone IMAGE:2017380 3' similar to WP:F28D11.1 CE05765 LOW DENSITY LIPID RECEPTOR-RELATED PROTEIN ;                            |  |
| 9428 22108       | 35280               | 5.05              | 2.0E-77                              | U50321.1              | NT                      | Human protein kinase C substrate BOK-H (PRKCSH) gene, exon 7  |  |
| 9428 22108       | 35281               | 5.05              | 2.0E-77                              | U50321.1              | NT                      | Human protein kinase C substrate BOK-H (PRKCSH) gene, exon 7  |  |
| 9895 22545       | 36738               | 0.47              | 2.0E-77                              | BF310349.1            | EST_HUMAN               | 6018895183F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:4124541 5   |  |
| 9895 22545       | 35739               | 0.47              | 2.0E-77                              | BF310349.1            | EST_HUMAN               | 6018895183F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:4124541 5   |  |
| 42 12870         | 25489               | 1.03              | 1.0E-77                              | AB033102.1            | NT                      | Homo sapiens mRNA for KIAA1276 protein, partial cds   |  |
| 42 12870         | 25489               | 1.03              | 1.0E-77                              | AB033102.1            | NT                      | Homo sapiens mRNA for KIAA1276 protein, partial cds   |  |
| 268 13074        | 25714               | 7.19              | 1.0E-77                              |                       |                         | Homo sapiens amyloid beta (A4) precursor protein (protease neitin-II, Alzheimer disease) (APP), mRNA  |  |
| 268 13074        | 25715               | 7.19              | 1.0E-77                              |                       |                         | Homo sapiens amyloid beta (A4) precursor protein (protease neitin-II, Alzheimer disease) (APP), mRNA  |  |
| 855 15554        | 26288               | 17.31             | 1.0E-77                              |                       |                         | Homo sapiens amyloid beta (A4) precursor protein (protease neitin-II, Alzheimer disease) (APP), mRNA  |  |
| 855 15554        | 26287               | 17.31             | 1.0E-77                              |                       |                         | Homo sapiens amyloid beta (A4) precursor protein (protease neitin-II, Alzheimer disease) (APP), mRNA  |  |
| 1972 14849       | 27380               | 0.9               | 1.0E-77                              | AW058119.1            | EST_HUMAN               | wv83e05.x1 Scores_thymus_NHFTn Homo sapiens cDNA clone IMAGE:2538160 3'   |  |
| 2445 15164       | 27802               | :                 | 1.32                                 | 1.0E-77               | AB028024.1              | NT  | Homo sapiens mRNA for KIAA1101 protein, complete cds |
| 3040 16806       | 28451               | 1.72              | 1.0E-77                              |                       |                         | Homo sapiens 2,4-dienoyl CoA reductase 1, mitochondrial (DEC1), mRNA  |  |
| 4320 17059       | 28684               | 3.37              | 1.0E-77                              |                       |                         | Homo sapiens CG1-80 protein (LOC51828), mRNA  |  |
| 4488 17223       | 28851               | 18.41             | 1.0E-77                              | AJ229041.1            | NT                      | Homo sapiens 859 kb config between AML1 and CBR1 on chromosome 21q22; segment 1/3   |  |
| 4603 17338       | 28987               | 2.29              | 1.0E-77                              |                       |                         | Homo sapiens breast cancer 1, early onset (BRCA1), transcript variant BRCA1-exon4, mRNA   |  |
| 5010 17732       | 30337               | 1                 | 1.0E-77                              |                       |                         | Homo sapiens KIAA0005 gene product (KIAA0005), mRNA   |  |
| 5010 17732       | 30338               | 1                 | 1.0E-77                              |                       |                         | Homo sapiens KIAA0005 gene product (KIAA0005), mRNA   |  |
| 5839 18627       | 31691               | 2.45              | 1.0E-77                              | AF086944.1            | NT                      | Homo sapiens dynactin 1 (DCTN1) gene, exons 27 and 28   |  |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|---|
| 5839 18827       |                 | 31562          |                   | 2.45                       | 1.0E-77 AF085944.1    | NT                      | Homo sapiens dynactin 1 (DCTN1) gene, exons 27 and 28   |
| 5956 18738       |                 | 31697          |                   | 1.4                        | 1.0E-77 MP5844.1      | NT                      | Human von Willebrand factor gene, exon 20   |
| 6356 19128       |                 | 32120          |                   | 0.82                       | 1.0E-77 4885182       | NT                      | Homo sapiens diaphanous (Drosophila, homolog) 1 (DIAPH1), mRNA  |
| 6953 19436       |                 | 32450          |                   | 21.7                       | 1.0E-77 5881412       | NT                      | Homo sapiens elastin (supraventricular aortic stenosis, Williams-Beuren syndrome) (ELN), mRNA                                   |
| 7584 20234       |                 | 33338          |                   | 1.05                       | 1.0E-77 11420158      | NT                      | Homo sapiens cullin 1 (CUL1), mRNA  |
| 7663 20827       |                 | 33437          |                   | 0.68                       | 1.0E-77 X04571.1      | NT                      | Human mRNA for kidney epidermal growth factor (EGF) precursor   |
| 9165 21835       |                 | 35000          |                   | 0.62                       | 1.0E-77 X94354.1      | NT                      | H.sapiens DNA for Cone cGMP-PDE gene  |
| 9165 21835       |                 | 35001          |                   | 0.62                       | 1.0E-77 X94354.1      | NT                      | H.sapiens DNA for Cone cGMP-PDE gene  |
| 10421 23067      |                 | 36288          |                   | 3.1                        | 1.0E-77 AB028288.1    | NT                      | Homo sapiens hu-GlcAT-P mRNA for glucuronyltransferase, complete cds  |
| 10421 23067      |                 | 36289          |                   | 3.1                        | 1.0E-77 AB028288.1    | NT                      | Homo sapiens hu-GlcAT-P mRNA for glucuronyltransferase, complete cds  |
| 10449 23095      |                 | 36329          |                   | 2.55                       | 9.0E-78 AW753302.1    | EST_HUMAN               | RC3-CT0254-2808989-011-b05 CTD254 Homo sapiens cDNA RC2-ET0023-080500-012-e05 ET0023 Homo sapiens cDNA                          |
| 6354 19124       |                 | 32117          |                   | 3.11                       | 8.0E-78 AW947081.1    | EST_HUMAN               | RC2-ET0023-080500-012-e05 ET0023 Homo sapiens cDNA  |
| 6354 19124       |                 | 32118          |                   | 3.11                       | 8.0E-78 AW947081.1    | EST_HUMAN               | RC2-ET0023-080500-012-e05 ET0023 Homo sapiens cDNA  |
| 84 12910         |                 | 25548          |                   | 1.87                       | 6.0E-78 AU118789.1    | EST_HUMAN               | AU118789 HEMBA1 Homo sapiens cDNA clone HEMBA1004354 5'   |
| 84 12910         |                 | 25549          |                   | 1.87                       | 6.0E-78 AU118789.1    | EST_HUMAN               | AU118789 HEMBA1 Homo sapiens cDNA clone HEMBA1004354 5'   |
| 8485 19232       |                 |                |                   | 2.54                       | 8.0E-78 11432710      | NT                      | Homo sapiens GDNF family receptor alpha 1 (GFRa1), mRNA   |
| 212 13024        |                 | 25663          |                   | 0.72                       | 5.0E-78 11422486      | NT                      | Homo sapiens hypothetical protein FLJ11316 (FLJ11316), mRNA   |
| 2587 15281       |                 | 28019          |                   | 5.53                       | 5.0E-78 AW573424.1    | EST_HUMAN               | hs54h03_36 NIH_MGC_10 Homo sapiens cDNA clone IMAGE22800405 5' similar to WF:Y4886A.6   |
| 3380 16139       |                 | 28797          |                   | 3.81                       | 6.0E-78 M55383.1      | NT                      | CE221211; Human collagenase type IV (CLG4) gene, exon 6   |
| 5327 18130       |                 | 30789          |                   | 2.33                       | 5.0E-78 AF033536.1    | NT                      | Homo sapiens Best's muscular dystrophy related protein mRNA, partial cds  |
| 5488 18287       |                 | 31183          |                   | 11.12                      | 5.0E-78 11416585      | NT                      | Homo sapiens transforming growth factor, beta-induced, 68kD (TGFBI), mRNA   |
| 7054 19745       |                 | 32808          |                   | 2.23                       | 5.0E-78 AW963120.1    | EST_HUMAN               | EST365190 MAGE sequences, MAGB Homo sapiens cDNA  |
| 8981 21671       |                 | 34821          |                   | 6.78                       | 5.0E-78 U60889.1      | NT                      | Human lysosomal alpha-mannosidase (manB) gene, exon 7   |
| 8982 21672       |                 | 34822          |                   | 3.31                       | 5.0E-78 BE960836.1    | EST_HUMAN               | 6018480861F1 NIH_MGC_62 Homo sapiens cDNA clone IMAGE3891887 5'   |
| 1115 13872       |                 | 28531          |                   | 1.07                       | 4.0E-78 AL045314.2    | EST_HUMAN               | DKFZp434N0323_11 434 (synonym: htes3) Homo sapiens cDNA clone DKFZp434N0323 5'  |
| 1508 14254       |                 | 28940          |                   | 1.78                       | 4.0E-78 AL355841.1    | NT                      | Novel human gene mapping to chromosome 22   |
| 1644 14390       |                 | 27078          |                   | 1.09                       | 4.0E-78 AL885094.1    | EST_HUMAN               | wt97b12_x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE-2496515 3' similar to SW:WAP_PIG O48855 WHEY ACIDIC PROTEIN PRECURSOR ; |
| 2316 15041       |                 | 27779          |                   | 2.08                       | 4.0E-78 AF107405.1    | NT                      | Homo sapiens pre-mRNA splicing factor (SFRS3) mRNA, complete cds  |
| 4288 17027       |                 | 28652          |                   | 1.73                       | 4.0E-78 7656878       | NT                      | Homo sapiens syncytin (LOC30816), mRNA  |
| 4722 17454       |                 | 30088          |                   | 2.61                       | 4.0E-78 4505806       | NT                      | Homo sapiens phosphatidylinositol 4-kinase, catalytic, alpha polypeptide (PIK4CA) mRNA  |
| 4722 17454       |                 | 30089          |                   | 2.61                       | 4.0E-78 4505806       | NT                      | Homo sapiens phosphatidylinositol 4-kinase, catalytic, alpha polypeptide (PIK4CA) mRNA  |
| 5681 18474       |                 | 31391          |                   | 1.41                       | 4.0E-78 11420732      | NT                      | Homo sapiens SFRS protein kinase 2 (SRPK2), mRNA  |

Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source                            | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--|
| 7390             | 20069           | 33148          | 0.68              | 4.0E-78                              | 4509738               | NT   | Homo sapiens ribosomal protein S6 kinase, 70kD, polypeptide 1 (RPS6KB1) mRNA                                   |
| 8752             | 21444           | 34561          | 2.86              | 4.0E-78                              | AF012872.1            | NT   | Homo sapiens phosphatidylinositol 4-kinase 230 (PI4K230) mRNA, complete cds                                    |
| 8752             | 21444           | 34562          | 2.86              | 4.0E-78                              | AF012872.1            | NT   | Homo sapiens phosphatidylinositol 4-kinase 230 (PI4K230) mRNA, complete cds                                    |
| 8268             | 22022           | 35182          | 0.6               | 4.0E-78                              | 11417251              | NT   | Homo sapiens X-ray repair complementing defective repair in Chinese hamster cells 4 (XRCC4), mRNA              |
| 10342            | 22989           | -36203         | 1.98              | 4.0E-78                              | 11560151              | NT   | Homo sapiens hypothetical C2H2 zinc finger protein FLJ22504 (FLJ22504) mRNA                                    |
| 10342            | 22989           | 36207          | 1.98              | 4.0E-78                              | 11660161              | NT   | Homo sapiens hypothetical C2H2 zinc finger protein FLJ22504 (FLJ22504) mRNA                                    |
| 11398            | 24002           | 37305          | 5.18              | 4.0E-78                              | AF169148.1            | NT   | Homo sapiens s-CaBP1 (CABP1) mRNA, complete cds  |
| 11547            | 24146           | 37456          | 2.15              | 4.0E-78                              | X05844.1              | NT   | Human transforming growth factor-beta precursor gene exons 4-5 (and joined mature peptide)                     |
| 12517            | 24866           | 31016          | 3.57              | 4.0E-78                              | AB011380.1            | NT   | Homo sapiens genes for AF-6, complete cds  |
| 157              | 12972           | 25610          | 1.39              | 3.0E-78                              | AF026590.1            | NT   | Homo sapiens eRF1 gene, complete cds   |
| 157              | 12972           | 25611          | 1.39              | 3.0E-78                              | AF026590.1            | NT   | Homo sapiens eRF1 gene, complete cds   |
| 3748             | 16499           |                | 0.98              | 3.0E-78                              | AU140804.1            | EST_HUMAN  | AU140804 PLACES Homo sapiens cDNA clone PLACE300373 5'   |
| 3796             | 16548           | 28181          | 0.72              | 3.0E-78                              | 4507334               | NT   | Homo sapiens synaptobrevin 1 (SYN1), mRNA  |
| 4084             | 16548           | 28181          | 0.98              | 3.0E-78                              | 4507334               | NT   | Homo sapiens synaptobrevin 1 (SYN1), mRNA  |
| 5094             | 17813           | 30430          | 0.93              | 3.0E-78                              | 4506328               | NT   | Homo sapiens protein tyrosine phosphatase, receptor-type, zeta polypeptide 1 (PTPRZ1) mRNA                     |
| 10186            | 22834           | 514            | 3.0E-78           | BE144768.1                           | EST_HUMAN             | CMO-HT0180-041089-065-007 HT0180 Homo sapiens cDNA |  |
| 10802            | 23582           | 36832          | 1.97              | 3.0E-78                              | BE159318.1            | EST_HUMAN  | QV0-HT0367-150200-114-g098 HT0367 Homo sapiens cDNA  |
| 3119             | 15884           |                | 2.17              | 2.0E-78                              | U04489.1              | NT   | Homo sapiens type IV collagen alpha 6 chain (COL4A5) gene, exon 20   |
| 3985             | 16743           |                | 1.87              | 2.0E-78                              | AA311872.1            | EST_HUMAN  | EST182533 Jurkat T-cells VI Homo sapiens cDNA 5' end   |
| 7367             | 20047           | 33126          | 1.54              | 2.0E-78                              | AW402308.1            | EST_HUMAN  | UHF-BK0-est-9-10-0-11 NIH_MGC_36 Homo sapiens cDNA clone IMAGE-3054139 5'                                      |
| 7367             | 20047           | 33127          | 1.54              | 2.0E-78                              | AW402308.1            | EST_HUMAN  | UHF-BK0-est-9-10-0-11 NIH_MGC_36 Homo sapiens cDNA clone IMAGE-3054139 5'                                      |
| 7631             | 20297           | 33405          | 3.89              | 2.0E-78                              | BF689800.1            | EST_HUMAN  | 602186529F1 NIH_MGC_49 Homo sapiens cDNA clone IMAGE-4282589 5'  |
| 7940             | 20636           | 33762          | 2.33              | 2.0E-78                              | AV714177.1            | EST_HUMAN  | AV714177 DCB Homo sapiens cDNA clone DCBAWF09 5'   |
| 8351             | 21044           | 34180          | 1.4               | 2.0E-78                              | AI557509.1            | EST_HUMAN  | P2.1_16_B07 r tumor2 Homo sapiens cDNA 3'  |
| 8351             | 21044           | 34181          | 1.4               | 2.0E-78                              | AI557509.1            | EST_HUMAN  | P2.1_18_B07 r tumor2 Homo sapiens cDNA 3'  |
| 11017            | 23689           | 36952          | 3.27              | 2.0E-78                              | AI197837.1            | EST_HUMAN  | Q150H05_X1 NCL_CGAP_Bm25 Homo sapiens cDNA clone IMAGE-1858801 3' similar to WP-FR0.1 CE06325 PROTEIN KINASE : |
| 11068            | 23738           | 37012          | 3.89              | 2.0E-78                              | N86951.1              | EST_HUMAN  | Za4812_s1 Scars fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE-295823 3'                               |
| 4123             | 16865           | 29491          | 3.07              | 1.0E-78                              | 4507098               | NT   | Homo sapiens synaptoosomal-associated protein, 25kD (SNAP25) mRNA  |
| 4123             | 16865           | 29492          | 3.07              | 1.0E-78                              | 4507098               | NT   | Homo sapiens synaptoosomal-associated protein, 25kD (SNAP25) mRNA  |
| 5222             | 18029           | 30655          | 2.83              | 1.0E-78                              | 11417304              | NT   | Homo sapiens GAP-like protein (LOC51306) mRNA  |
| 6857             | 17834           | 30570          | 0.78              | 1.0E-78                              | AV848689.1            | EST_HUMAN  | AV848689 GLC Homo sapiens cDNA clone GLCBMCO1 3'   |
| 7738             | 20401           | 33517          | 0.55              | 1.0E-78                              | AU122163.1            | EST_HUMAN  | AU122163 MAMMA1 Homo sapiens cDNA clone MAMMA1001785 5'  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 8059             | 20753           |                | 3.28              | 1.0E-78                              | U52373.1              | NT                      | Human serine/threonine kinase MNB (mrb) mRNA, complete cds   |
| 12045            | 24585           | 31117          | 1.39              | 1.0E-78                              | 11430460              | NT                      | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA  |
| 12477            | 25244           | 30718          | 1.55              | 1.0E-78                              | Al650919.1            | EST_HUMAN               | wa20508.x1 NC1_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:22888165 3'  |
| 4650             | 17384           | 30016          | 4.05              | 9.0E-79                              | 11625891              | NT                      | Homo sapiens peptide YY (PYY), mRNA  |
| 48111            | 17542           | 30166          | 8.05              | 9.0E-79                              | BE000837.1            | EST_HUMAN               | RC2-BN074-090300-014-c12 BN074 Homo sapiens cDNA   |
| 5346             | 18149           | 30829          | 16.87             | 9.0E-79                              | AB028070.1            | NT                      | Homo sapiens mRNA for activator of S phase Kinase, complete cds  |
| 6248             | 18022           | 31994          | 2.38              | 9.0E-79                              | 5454145               | NT                      | Homo sapiens ubiquitin-conjugating enzyme E2E_3 (homologous to yeast UBC4/5) (UBE2E3) mRNA   |
| 7251             | 25108           |                | 0.89              | 9.0E-79                              | 11424427              | NT                      | Homo sapiens hypothetical protein FLJ20345 (FLJ20345), mRNA  |
| 7473             | 20146           | 33239          | 0.79              | 9.0E-79                              | 11421735              | NT                      | Homo sapiens cAMP response element-binding protein CRE-BP <sub>a</sub> (H_GS165 16.1), mRNA  |
| 7473             | 20146           | 33240          | 0.79              | 9.0E-79                              | 11421735              | NT                      | Homo sapiens cAMP response element-binding protein CRE-BP <sub>a</sub> (H_GS165 15.1), mRNA  |
| 8244             | 20938           | 34074          | 0.49              | 9.0E-79                              | 11417260              | NT                      | Homo sapiens tRNA synthetase (TARS), mRNA  |
| 8244             | 20938           | 34075          | 0.49              | 9.0E-79                              | 11417260              | NT                      | Homo sapiens tRNA synthetase (TARS), mRNA  |
| 89361            | 21652           | 34802          | 5.1               | 9.0E-79                              | J02853.1              | NT                      | Homo sapiens casein kinase II alpha subunit mRNA, complete cds   |
| 89361            | 21652           | 34803          | 5.1               | 9.0E-79                              | J02853.1              | NT                      | Homo sapiens casein kinase II alpha subunit mRNA, complete cds   |
| 92280            | 22034           | 35208          | 0.58              | 9.0E-79                              | D87675.1              | NT                      | Homo sapiens DNA for amyloid precursor protein, complete cds   |
| 10283            | 22811           | 36121          | 0.82              | 9.0E-79                              | 11438843              | NT                      | Homo sapiens hypothetical protein FLJ20535 (FLJ20535), mRNA  |
| 10318            | 22885           | 36182          | 1.73              | 9.0E-79                              | AF062348.1            | NT                      | Homo sapiens zinc finger protein 216 splice variant 1 (ZNF216) mRNA, complete cds  |
| 10318            | 22965           | 36183          | 1.73              | 9.0E-79                              | AF062348.1            | NT                      | Homo sapiens zinc finger protein 216 splice variant 1 (ZNF216) mRNA, complete cds  |
| 11091            | 23874           | 36930          | 3.13              | 9.0E-79                              | AY008273.1            | NT                      | Homo sapiens TRAF4-regulated IKK <sub>α</sub> activator 1 beta (IverA) mRNA, complete cds  |
| 11497            | 240898          | 37410          | 3.55              | 9.0E-79                              | 11422827              | NT                      | Homo sapiens suppressor of white apicolet homolog 2 (SWAP2), mRNA  |
| 11497            | 240898          | 37411          | 3.55              | 9.0E-79                              | 11422827              | NT                      | Homo sapiens suppressor of white apicolet homolog 2 (SWAP2), mRNA  |
| 3725             | 18478           | 28115          | 0.91              | 8.0E-79                              | AL163210.2            | NT                      | Homo sapiens chromosome 21 segment HS21C010  |
| 11888            | 17910           | 30598          | 1.82              | 8.0E-79                              | 8567387               | NT                      | Homo sapiens period (Drosophila) homolog 3 (PER3), mRNA  |
| 3247             | 18009           | 28880          | 28.39             | 7.0E-79                              | BE619848.1            | EST_HUMAN               | 60147276511 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:4622558 3' similar to Zf84ed4.1; Soares_fetal_liver_spleen_1NFS_S1_Homo sapiens cDNA clone IMAGE:3875857 3' |
| 11889            | 24466           |                | 4.32              | 6.0E-78                              | AA689828.1            | EST_HUMAN               | TR-Q15408 Q15408 NEUTRAL PROTEASE LARGE SUBUNIT ;  |
| 11478            | 24079           | 37390          | 2.52              | 5.0E-78                              | AL163282.2            | NT                      | Homo sapiens chromosome 21 segment HS21C082  |
| 3173             | 156336          |                |                   | 1.48                                 | 4.0E-78               | 89222326                | NT   |
| 305              | 13109           | 25749          | 1.28              | 3.0E-78                              | AF114488.1            | NT                      | Homo sapiens intersectin short isoform (ITSN) mRNA, complete cds   |
| 857              | 13722           | 26388          | 3.85              | 3.0E-78                              | AF232708.1            | NT                      | Homo sapiens cell-line ns420 a chloride ion current inducer protein (CCh) gene, complete cds   |
| 3095             | 156850          | 28501          | 1.61              | 3.0E-78                              | U09410.1              | NT                      | Human zinc finger protein ZNF131 mRNA, partial cds   |
| 62277            | 18082           | 30738          | 5.24              | 3.0E-78                              | AF110322.1            | NT                      | Homo sapiens MSTP016 (MST016) mRNA, complete cds   |
| 56337            | 18432           | 31345          | 1.24              | 3.0E-78                              | AB020689.1            | NT                      | Homo sapiens mRNA for KIAA0892 protein, partial cds  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe Seq ID No: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No.  | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|--------------------------------------|--|--|--------------------|
| 6582 18457       | 31371           | 0.83           | 3.0E-79           | BE789470.1                           | EST_HUMAN  | 601482143F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3884554 5'  |                    |
| 5582 18457       | 31372           | 0.83           | 3.0E-79           | BE789470.1                           | EST_HUMAN  | 601482143F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3884554 5'  |                    |
| 6582 18476       | 31392           | 3.56           | 3.0E-79           | 11426770 NT                          | Homo sapiens retin 1 (NTN1), mRNA  |  |                    |
| 6582 18475       | 31393           | 3.56           | 3.0E-79           | 11426770 NT                          | Homo sapiens retin 1 (NTN1), mRNA  |  |                    |
| 65446 19408      | 32422           | 0.67           | 3.0E-79           | BE256883.1                           | EST_HUMAN  | 601112055F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3852885 6'  |                    |
| 65820 19442      | 32467           | 3.35           | 3.0E-79           | AB014520.1                           | NT   | Homo sapiens mRNA for KIAA0620 protein, partial cds  |                    |
| 65820 19442      | 32458           | 3.35           | 3.0E-79           | AB014520.1                           | NT   | Homo sapiens mRNA for KIAA0620 protein, partial cds  |                    |
| 7728 20389       | 33503           | 0.76           | 3.0E-79           | 6812455 NT                           | Homo sapiens guanine nucleotide exchange factor Rap1 (KIAA0277), mRNA              |  |                    |
| 80584 20758      | 33887           | 1.61           | 3.0E-79           | AF248273.1                           | NT   | Homo sapiens Bcl-2-associated transcription factor short form mRNA, complete cds                                 |                    |
| 8303 21970       | 35144           | 1.33           | 3.0E-79           | 10835036 NT                          | Homo sapiens tetratrico peptide repeat domain 3 (TTC3), mRNA                       |  |                    |
| 10245 22893      |                 | 1.24           | 3.0E-79           | AV688116.1                           | EST_HUMAN  | AV688116 GKC_Homo sapiens cDNA clone GKCAHE11 5'   |                    |
| 10768 23452      | 36694           | 1.62           | 3.0E-79           | AF248273.1                           | NT   | Homo sapiens Bcl-2-associated transcription factor short form mRNA, complete cds                                 |                    |
| 10768 23452      | 36695           | 1.52           | 3.0E-79           | AF248273.1                           | NT   | Homo sapiens Bcl-2-associated transcription factor short form mRNA, complete cds                                 |                    |
| 281 13088        |                 | 0.89           | 2.0E-79           | H63129.1                             | EST_HUMAN  | yr4803.51 Soorees fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:208541 3'                               |                    |
| 619 13398        | 26033           | 1.6            | 2.0E-79           | BE375826.1                           | EST_HUMAN  | 601159415F2 NIH_MGC_53 Homo sapiens cDNA clone IMAGE:3511107 5'  |                    |
| 907 13874        | 26339           | 2.28           | 2.0E-79           | 4757841 NT                           | (Homo sapiens BCL2-like 2 (BCL2L2)) mRNA   |  |                    |
| 1012 13772       |                 | 2.09           | 2.0E-79           | AI523747.1                           | EST_HUMAN  | th18107.x1 NCI_CGAP_Pt28 Homo sapiens cDNA clone IMAGE:2118686 3'  |                    |
| 1781 14522       | 27228           | 1.12           | 2.0E-79           | 7867024 NT                           | Homo sapiens Dickkopf gene 4 (DKK-4), mRNA   |  |                    |
| 1781 14522       | 27227           | 1.12           | 2.0E-79           | 7857024 NT                           | Homo sapiens Dickkopf gene 4 (DKK-4), mRNA   |  |                    |
| 2144 14874       | 27607           | 5.83           | 2.0E-79           | 4585863 NT                           | Homo sapiens phosphodiesterase 6A, cGMP-specific, rod, alpha (PDE6A), mRNA         |  |                    |
| 2144 14874       | 27608           | 5.83           | 2.0E-79           | 4585863 NT                           | Homo sapiens phosphodiesterase 6A, cGMP-specific, rod, alpha (PDE6A), mRNA         |  |                    |
| 2189 14918       | 27652           | 1.07           | 2.0E-79           | AJ271408.1                           | NT   | Homo sapiens mRNA for Faf-associated factor, FAF1 (Faf1 gene)  |                    |
| 2721 15423       | 28160           | 1.09           | 2.0E-79           | AB023154.1                           | NT   | Homo sapiens mRNA for KIAA0637 protein, partial cds  |                    |
| 38833 16843      | 28283           | 0.83           | 2.0E-79           | AF170492.1                           | NT   | Homo sapiens chloride channel CLC4 (CLC4) mRNA, complete cds   |                    |
| 4144 16886       | 28517           | 1.09           | 2.0E-79           | AJ271408.1                           | NT   | Homo sapiens mRNA for Faf-associated factor, FAF1 (Faf1 gene)  |                    |
| 55955 18382      |                 | 1.22           | 2.0E-79           | AA312223.1                           | EST_HUMAN  | EST182926 Jurkat T-cells VI Homo sapiens cDNA 5' end similar to C. elegans hypothetical protein, cosmid B0303.15 |                    |
| 5840 18435       | 31348           | 0.8            | 2.0E-79           | 11181769 NT                          | Homo sapiens X transporter protein 3 (XT3), mRNA                                   |  |                    |
| 6149 18926       | 31890           | 1.14           | 2.0E-79           | AB020837.1                           | NT   | Homo sapiens mRNA for KIAA0830 protein, partial cds  |                    |
| 65824 17941      | 30577           | 0.89           | 2.0E-79           | AJ283813.1                           | NT   | Homo sapiens membrane-associated calcium-independent phospholipase A2 gamma mRNA, complete cds                   |                    |
| 7067 19753       | 32822           | 1.7            | 2.0E-79           | 7382479 NT                           | Homo sapiens Rho GTPase activating protein 8 (ARHGAP9), transcript variant 4, mRNA |  |                    |
| 7067 19758       | 32823           | 1.7            | 2.0E-79           | 7382479 NT                           | Homo sapiens Rho GTPase activating protein 8 (ARHGAP9), transcript variant 4, mRNA |  |                    |
| 78939 20694      | 33821           | 1.08           | 2.0E-79           | 4506442 NT                           | Homo sapiens retinoblastoma-like 1 (p107) (RBL 1) mRNA                             |  |                    |

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**Table 4**  
**Single Exon Probes Expressed In Brain**

| Probe Seq ID No: | Exon Seq ID No: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No.   | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|---|-------------------------|--|
| 8415 21108       | 34247           | 225            | 2.0E-79           | 11427428 NT                          |   |                         | Homo sapiens hypothetical protein FLJ11006 (FLJ11006), mRNA  |
| 8694 21356       | 34503           | 0.58           | 2.0E-79           | 8923248 NT                           |   |                         | Homo sapiens hypothetical protein FLJ20275 (FLJ20275), mRNA  |
| 8694 21356       | 34504           | 0.58           | 2.0E-79           | 8923248 NT                           |   |                         | Homo sapiens hypothetical protein FLJ20275 (FLJ20275), mRNA  |
| 8692 21583       | 34734           | 1.65           | 2.0E-79           | 11432184 NT                          |   |                         | Homo sapiens similar to ATPase, H <sup>+</sup> transporting, lysosomal (vacuolar proton pump) membrane sector associated protein M6-9 (H. sapiens) (LOC383961), mRNA |
| 8692 22840       | 35850           | 1.44           | 2.0E-79           | S72868.1 NT                          |   |                         | H4-D10S170->putative cytoskeletal protein [human, thyroid, mRNA, 3011 nt]  |
| 8692 22840       | 36851           | 1.44           | 2.0E-79           | S72868.1 NT                          |   |                         | H4-D10S170->putative cytoskeletal protein [human, thyroid, mRNA, 3011 nt]  |
| 10698 23398      | 36027           | 12.34          | 2.0E-79           | U07818.1 NT                          |   |                         | Human connectin 1 precursor (CNTN1) mRNA, complete cds   |
| 10698 23632      | 36880           | 4.05           | 2.0E-79           | BE064386.1 EST HUMAN                 | RC4-BT0310-110300-015-10 BT0310 Homo sapiens cDNA   |                         |  |
| 10698 23632      | 36881           | 4.05           | 2.0E-79           | BE064386.1 EST HUMAN                 | RC4-BT0310-110300-015-10 BT0310 Homo sapiens cDNA   |                         |  |
| 111836 17908     | 30594           | 2.16           | 2.0E-79           | 7682357 NT                           |   |                         | Homo sapiens KIAA0879 protein (KIAA0879), mRNA   |
| 12018 24548      | 31108           | 5.19           | 2.0E-79           | AB020840.1 NT                        |   |                         | Homo sapiens mRNA for KIAA0833 protein, partial cds  |
| 12238 24690      | 31075           | 2.89           | 2.0E-79           | 11418322 NT                          |   |                         | Homo sapiens cadherin EGF LAG seven-pass G-type receptor 1 (CELSR1), mRNA  |
| 6892 25081       |                 | 3.76           | 1.0E-79           | BF363071.1 EST HUMAN                 | MRO-NN0087-280800-017-610 NN0087 Homo sapiens cDNA  |                         |  |
| 8143 20837       | 33989           | 0.78           | 1.0E-79           | BE384211.1 EST HUMAN                 | 601311517F1 NIH MGC_44 Homo sapiens cDNA clone IMAGE:36329096   |                         |  |
| 11623 24220      | 37543           | 2.05           | 1.0E-79           | BF087405.1 EST HUMAN                 | QV2-HT0540-120900-388-605 HT0540 Homo sapiens cDNA  |                         |  |
| 12047 26333      |                 | 1.8            | 1.0E-79           | AI460116.1 EST HUMAN                 | at78a04.x1 Barstead colon HPLR77 Homo sapiens cDNA clone IMAGE:21514983   |                         |  |
| 3143 15907       | 28551           | 2.35           | 9.0E-80           | AA725848.1 EST HUMAN                 | at23e05.s1 Soares _testis_NHT Homo sapiens cDNA clone 13436483  |                         |  |
| 3143 15907       | 28552           | 2.35           | 9.0E-80           | AA725848.1 EST HUMAN                 | at23e05.s1 Soares _testis_NHT Homo sapiens cDNA clone 13436483  |                         |  |
| 9812 22561       | 35757           | 1.14           | 9.0E-80           | BE788633.1 EST HUMAN                 | 601581652F1 NIH MGC_7 Homo sapiens cDNA clone IMAGE:39360615  |                         |  |
| 11245 23807      | 37198           | 8.88           | 9.0E-80           | 11433824 NT                          |   |                         | Homo sapiens solute carrier family 7 (cationic amino acid transporter, yr <sup>+</sup> system), member 8 (SLC7A8), mRNA  |
| 11245 23907      | 37200           | 8.88           | 9.0E-80           | 11433824 NT                          |   |                         | Homo sapiens solute carrier family 7 (cationic amino acid transporter, yr <sup>+</sup> system), member 8 (SLC7A8), mRNA  |
| 3898 16342       |                 | 1.31           | 8.0E-80           | UB94387.1 NT                         |   |                         | Homo sapiens Y chromosome spermatogenesis candidate protein (RBM) pseudogene mRNA, partial cds   |
| 7604 20175       | 33268           | 3.07           | 8.0E-80           | 11422847 NT                          |   |                         | Homo sapiens KIAA0724 gene product (KIAA0724), mRNA  |
| 7504 20175       | 33269           | 3.07           | 8.0E-80           | 11422847 NT                          |   |                         | Homo sapiens KIAA0724 gene product (KIAA0724), mRNA  |
| 8302 21989       | 35142           | 1.13           | 8.0E-80           | 60059221 NT                          |   |                         | Homo sapiens triple functional domain (PTPRF interacting) (TRIO), mRNA   |
| 8302 21989       | 35143           | 1.13           | 8.0E-80           | 60059221 NT                          |   |                         | Homo sapiens triple functional domain (PTPRF interacting) (TRIO), mRNA   |
| 880 13649        | 26318           | 1.12           | 6.0E-80           | A1422197.1 EST HUMAN                 | tts8d02-x1 NCL CGAP_Bm23 Homo sapiens cDNA clone IMAGE:2103459 3' similar to SWNUEM_HUMAN_Q16785 NADH-UBIQUINONE OXIDOREDUCTASE 39 KD SUBUNIT PRECURSOR ; |                         |  |
| 16338 14384      | 27071           | 2.22           | 6.0E-80           | UB4898.1 NT                          |   |                         | Homo sapiens NRD convertase mRNA, complete cds   |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 4252             | 18893           | 28620          | 1.08              | 6.0E-80                              | AB032981.1            | NT                      | Homo sapiens mRNA for KIAA1155 protein, partial cds  |
| 4252             | 18893           | 29621          | 1.08              | 6.0E-80                              | AB032981.1            | NT                      | Homo sapiens mRNA for KIAA1155 protein, partial cds  |
| 5712             | 18905           | 31427          | 1.79              | 6.0E-80                              | 11421462              | NT                      | Homo sapiens malate dehydrogenase 2, NAD (mitochondrial) (MDH2), mRNA  |
| 5984             | 18765           | 31729          | 3.37              | 6.0E-80                              | AJ404468.1            | NT                      | Homo sapiens mRNA for dynen heavy chain (DNAH18 gene)  |
| 6135             | 18913           | 31882          | 4.69              | 6.0E-80                              | 11438736              | NT                      | Homo sapiens tubby-like protein 3 (TULP3), mRNA  |
| 6179             | 18958           |                | 1.17              | 6.0E-80                              | 7682393               | NT                      | Homo sapiens KIAA0941 protein (KIAA0941), mRNA   |
| 6230             | 1804            | 31980          | 0.96              | 6.0E-80                              | M18533.1              | NT                      | Homo sapiens dystrophin (DMD) mRNA, complete cds   |
| 8723             | 21415           | 34558          | 3.22              | 6.0E-80                              | 11528484              | NT                      | Homo sapiens G protein-coupled receptor 51 (GPR51), mRNA   |
| 8723             | 21415           | 34559          | 3.22              | 6.0E-80                              | 11528484              | NT                      | Homo sapiens G protein-coupled receptor 51 (GPR51), mRNA   |
| 8917             | 21608           | 34761          | 1.61              | 6.0E-80                              | AL183301.2            | NT                      | Homo sapiens chromosome 21 segment HS21C101  |
| 9259             | 21938           | 35113          | 0.83              | 6.0E-80                              | AF161495.1            | NT                      | Homo sapiens HSPC146 mRNA, complete cds  |
| 9781             | 22412           | 35619          | 1.48              | 6.0E-80                              | U20211.1              | NT                      | Human cone photoreceptor cGMP-phosphodiesterase alpha' subunit gene, exon 21   |
| 10881            | 23541           | 36798          | 2.83              | 6.0E-80                              | 11427368              | NT                      | Homo sapiens brevetinin A-inhibited guanine nucleotide-exchange protein 1 (BIG1), mRNA                                   |
| 11187            | 23852           | 37138          | 28.55             | 6.0E-80                              | AF228730.1            | NT                      | Homo sapiens Cy19 mRNA, complete cds   |
| 11702            | 24297           | 37623          | 1.59              | 6.0E-80                              | U76860.1              | NT                      | Human peroxisome targeting signal 2 receptor (Pex7) mRNA, complete cds   |
| 11756            | 24347           | 37877          | 1.5               | 6.0E-80                              | AF102265.1            | NT                      | Homo sapiens N-acetylglucosamine-phosphate mutase mRNA, complete cds   |
| 11802            | 24392           | 37725          | 2.28              | 6.0E-80                              | AB018280.1            | NT                      | Homo sapiens mRNA for KIAA0717 protein, partial cds  |
| 11802            | 24392           | 37726          | 2.28              | 6.0E-80                              | AB018280.1            | NT                      | Homo sapiens mRNA for KIAA0717 protein, partial cds  |
|                  |                 |                |                   |                                      |                       |                         | t58d02x1 NCL_CGAP_Bm23 Homo sapiens cDNA clone IMAGE:2103450 3' similar to SWNUEM_HUMAN                                  |
| 11906            | 13649           | 28318          | 1.88              | 6.0E-80                              | AI422197.1            | EST_HUMAN               | Q16785 NADH-UBIQUINONE OXIDOREDUCTASE 39 KD SUBUNIT PRECURSOR ;  |
| 12028            | 25217           |                | 2.42              | 6.0E-80                              | AF240788.1            | NT                      | Homo sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1) genes, complete cds |
| 12219            | 24679           |                | 5.78              | 6.0E-80                              | AB028900.1            | NT                      | Homo sapiens CST gene for cerebroside sulfotransferase, exon 1, 2, 3, 4, 5   |
| 12707            | 25341           |                | 1.94              | 6.0E-80                              | AJ133127.1            | NT                      | Homo sapiens mRNA for sodium-glucose cotransporter (SGLT2 gene)  |
| 12804            | 25051           | 30888          | 1.35              | 6.0E-80                              | AF240788.1            | NT                      | Homo sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1) genes, complete cds |
| 574              | 13354           | 25983          | 0.74              | 5.0E-80                              | 4506228               | NT                      | Homo sapiens proteasome (prosome, macropain) 26S subunit, nonATPase, 3 (PSMD3) mRNA                                      |
| 815              | 13589           | 26233          | 1.97              | 5.0E-80                              | AF108630.1            | NT                      | Homo sapiens serine-threonine protein kinase (MNBBH) mRNA, complete cds  |
| 815              | 13589           | 26254          | 1.97              | 5.0E-80                              | AF108630.1            | NT                      | Homo sapiens serine-threonine protein kinase (MNBBH) mRNA, complete cds  |
| 1109             | 13820           |                | 2.39              | 5.0E-80                              | X91647.1              | NT                      | H.sapiens nco1 gene (exon 12)  |
| 14239            | 14186           |                | 2.26              | 5.0E-80                              | AL163283.2            | NT                      | Homo sapiens chromosome 21 segment HS21C083  |
| 2361             | 15083           | 27821          | 1.89              | 5.0E-80                              | U88358.1              | NT                      | Human V(3)mbt protein homolog mRNA, complete cds   |
| 2431             | 15152           | 27886          | 1.65              | 5.0E-80                              | AB037855.1            | NT                      | Homo sapiens mRNA for KIAA1434 protein, partial cds  |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|--|---|
| 2797             | 15502           | 28242          | 1.67              | 5.0E-80                    | 4504282 NT            | Homo sapiens H3 histone family, member J (H3F1) mRNA   |   |
| 4018             | 16764           | 28383          | 1.37              | 5.0E-80                    | AB019038.1            | Homo sapiens HMT-1 mRNA for beta-1,4-mannosyltransferase, complete cds   |   |
| 4018             | 16764           | 28394          | 1.37              | 5.0E-80                    | AB019038.1            | Homo sapiens HMT-1 mRNA for beta-1,4-mannosyltransferase, complete cds   |   |
| 4900             | 17627           | 30244          | 1.28              | 5.0E-80                    | AL163268.2            | Homo sapiens chromosome 21 segment HS21C068  |   |
| 8255             | 20949           | 34086          | 1.04              | 5.0E-80                    | 8810283 NT            | Mus musculus keratin complex 2, gene 8g (Krt2-8g), mRNA  |   |
| 9157             | 214888          | 35053          | 8.77              | 4.0E-80                    | F25915.1              | EST_HUMAN  | HSPD13 55_HM3 Homo sapiens cDNA clone s4000045F03   |
| 211              | 13023           |                | 8.98              | 3.0E-80                    | AL163210.2            | Hom sapiens chromosome 21 segment HS21C010   |   |
| 4681             | 17395           | 30030          | 1.7               | 3.0E-80                    | BF085009.1            | EST_HUMAN  | PM0-GN0018-040800-002-E03 GN0018 Homo sapiens cDNA  |
| 4850             | 17580           |                | 3.77              | 3.0E-80                    | BE817485.1            | EST_HUMAN  | QV4-BN0263-040800-241-q10 BN0263 Homo sapiens cDNA clone IMAGE-1587054 3' similar to cc23e12x1 Soares_NSF_F8_9W_OT_PA_P_S1 Homo sapiens cDNA clone IMAGE-38050 5' |
| 6730             | 18522           | 31443          | 2.68              | 3.0E-80                    | AI081675.1            | EST_HUMAN  | TR-035780 O35780 PIGL-;   |
| 1790             | 14530           | 27238          | 5.08              | 2.0E-80                    | R35321.1              | EST_HUMAN  | ygf5a08.11 Soares Infant brain 1NIB Homo sapiens cDNA clone IMAGE-38050 5'  |
| 1853             | 14591           | 27307          | 1.19              | 2.0E-80                    | AI144821.1            | EST_HUMAN  | RET4B7 subtracted retina cDNA library Homo sapiens cDNA clone RET4B7  |
| 2049             | 14782           | 27609          | 5.82              | 2.0E-80                    | AL043116.2            | EST_HUMAN  | DKFZp434D1323_T1 434 (synonym: Itess) Homo sapiens cDNA clone DKFZp434D1323 5'  |
| 6708             | 19823           | 32667          | 0.83              | 2.0E-80                    | AA582952.1            | EST_HUMAN  | mg0d01.s1 NCI_CGAP_C09 Homo sapiens cDNA clone IMAGE-1080177 3'   |
| 6813             | 19474           | 32493          | 1.71              | 2.0E-80                    | 11424930 NT           | Homo sapiens Colgi transport complex protein (30 kDa) (GTG20), mRNA  |   |
| 7151             | 19838           | 32908          | 1.46              | 2.0E-80                    | T73215.1              | EST_HUMAN  | yf86f12.11 Soares Infant brain 1NIB Homo sapiens cDNA clone IMAGE-22851 5' similar to TR-G191315  |
| 9057             | 21746           | 34905          | 1.41              | 2.0E-80                    | AW084270.1            | EST_HUMAN  | SP:K1CR_XENLA_P03802 KERATIN, TYPE I CYTOSKELETAL ENDO B ;  |
| 9668             | 22320           | 35616          | 1                 | 2.0E-80                    | AJ007378.1            | NT   | EST378343 MAGE resequences, MAGE Homo sapiens cDNA  |
| 10780            | 23463           | 36705          | 4.49              | 2.0E-80                    | AA508362.1            | EST_HUMAN  | ZT0712.11 Soares_NHT Homo sapiens cDNA clone IMAGE-727727 5' similar to TR-G191315  |
| 331              | 13132           |                | 2.25              | 1.0E-80                    | AL163303.2            | NT   | G191315 ANDROGEN-DEPENDENT EXPRESSED PROTEIN. ;   |
| 782              | 13554           | 28215          | 1.37              | 1.0E-80                    | AF231920.1            | NT   | Hom sapiens chromosome 21 segment HS21C103  |
| 1947             | 14682           |                | 2.44              | 1.0E-80                    | AJ732666.1            | EST_HUMAN  | Hom0f1125 NCI_CGAP_C09 Homo sapiens cDNA clone IMAGE-1078495 3' similar to contains ORFH OFR repetitive element;  |
| 6060             | 17779           | 30397          | 0.89              | 1.0E-80                    | 4557810 NT            | Homo sapiens gamma-aminobutyric acid (GABA) A receptor, gamma 2 (GABRG2) mRNA                                      |   |
| 5244             | 16050           | 643            | 1.43              | 1.0E-80                    | BE388615.1            | EST_HUMAN  | 601274305F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE-2615433 5'   |
| 5881             | 18867           | 31608          | 6.58              | 1.0E-80                    | L10347.1              | NT   | Human pro-alpha1 type II collagen (COL2A1) gene exons 1-5A, complete cds  |
| 6408             | 19175           | 32174          | 1.36              | 1.0E-80                    | 5174540 NT            | Homo sapiens malate dehydrogenase 2, NAD (mitochondrial) (MDH2), nuclear gene encoding mitochondrial protein, mRNA |   |
| 7106             | 19794           | 32269          | 0.95              | 1.0E-80                    | AJ224172.1            | NT   | Homo sapiens mRNA for lipophilin B  |
| 7472             | 20145           | 33237          | 2.53              | 1.0E-80                    | AB48731.1             | EST_HUMAN  | wq25c05_x1 NCI_CGAP_Kct11 Homo sapiens cDNA clone IMAGE-2472298 3'  |
| 7472             | 20145           | 33238          | 2.53              | 1.0E-80                    | AB48731.1             | EST_HUMAN  | wq25c05_x1 NCI_CGAP_Kct11 Homo sapiens cDNA clone IMAGE-2472298 3'  |

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Single Exon Probes Expressed in Brain

| Probe Seq ID No. | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 8130             | 20824           | 33860          | 2.84              | 1.0E-80                              | 11421211              | NT                      | Homo sapiens protein tyrosine phosphatases, receptor type, A (PTPRA), mRNA                                      |
| 8801             | 21288           | 34435          | 1.72              | 1.0E-80                              | 11421211              | NT                      | Homo sapiens protein tyrosine phosphatases, receptor type, A (PTPRA), mRNA                                      |
| 8801             | 21283           | 34436          | 1.72              | 1.0E-80                              | 11421211              | NT                      | Homo sapiens protein tyrosine phosphatases, receptor type, A (PTPRA), mRNA                                      |
| 9185             | 21856           | 38019          | 1.21              | 1.0E-80                              | AF248218.1            | NT                      | Homo sapiens probable mannose binding C-type lectin DC-SIGNR mRNA, complete cds                                 |
| 9185             | 21855           | 38020          | 1.21              | 1.0E-80                              | AF248218.1            | NT                      | Homo sapiens probable mannose binding C-type lectin DC-SIGNR mRNA, complete cds                                 |
| 10325            | 22872           | 386192         | 0.95              | 1.0E-80                              | D63478.2              | NT                      | Homo sapiens mRNA for KIAA0145 protein, partial cds   |
| 10548            | 23244           | 38479          | 5.25              | 1.0E-80                              | 11841276              | NT                      | Homo sapiens similar to rat myomegalin (LOC84182), mRNA   |
| 10548            | 23244           | 38680          | 5.25              | 1.0E-80                              | 11841276              | NT                      | Homo sapiens similar to rat myomegalin (LOC84182), mRNA   |
| 12289            | 24719           | 31051          | 1.57              | 1.0E-80                              | 11417901              | NT                      | Homo sapiens meningioma (disrupted in balanced translocation) 1 (MN1), mRNA                                     |
| 12498            | 24853           | 31034          | 3.08              | 1.0E-80                              | AB020640.1            | NT                      | Homo sapiens mRNA for KIAA0833 protein, partial cds   |
| 10583            | 23278           | 36515          | 1.46              | 8.0E-81                              | AI251732.1            | EST_HUMAN               | qhe0g05.k1 Seares_NFL_T GBC_S1 Homo sapiens cDNA clone IMAGE:18542896 3'  |
| 10583            | 23278           | 36516          | 1.46              | 8.0E-81                              | AI251732.1            | EST_HUMAN               | qhe0g05.k1 Seares_NFL_T GBC_S1 Homo sapiens cDNA clone IMAGE:18542896 3'  |
| 11102            | 23772           | 37046          | 8.46              | 8.0E-81                              | BE394525.1            | EST_HUMAN               | 601310531F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3632070 5'   |
| 7152             | 18839           | 32809          | 3.58              | 7.0E-81                              | AI822115.1            | EST_HUMAN               | ZB91G08.J5 Seares_fetal_lung_NBL19W Homo sapiens cDNA clone IMAGE:2889918 3'                                    |
| 4354             | 17092           | 29723          | 5.28              | 6.0E-81                              | BE256829.1            | EST_HUMAN               | 601111970F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3532240 5  |
| 4354             | 17092           | 29727          | 5.28              | 6.0E-81                              | BE256829.1            | EST_HUMAN               | 601111970F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3532240 5  |
| 5201             | 18008           | 30630          | 2.1               | 6.0E-81                              | 4501848               | NT                      | Homo sapiens ATP-binding cassette, sub-family A (ABC1), member 3 (ABCA3), mRNA                                  |
| 5201             | 18009           | 30631          | 2.1               | 6.0E-81                              | 4501848               | NT                      | Homo sapiens ATP-binding cassette, sub-family A (ABC1), member 3 (ABCA3), mRNA                                  |
| 7489             | 20161           | 33253          | 0.97              | 6.0E-81                              | AF038860.1            | NT                      | Homo sapiens chromosome 1p33-p34 beta-1,4-galactosyltransferase mRNA, complete cds                              |
| 9136             | 21824           | 34989          | 1.36              | 6.0E-81                              | AA360017.1            | EST_HUMAN               | EST68129 Fetal Lung II Homo sapiens cDNA 6' end   |
| 11800            | 24390           | 37723          | 1.61              | 6.0E-81                              | BE396092.1            | EST_HUMAN               | 601312522F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3659284 5  |
| 12430            | 24803           | 31041          | 2.29              | 6.0E-81                              | BF6792022.1           | EST_HUMAN               | 602153868F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE:4284601 5  |
| 12430            | 24803           | 31042          | 2.29              | 6.0E-81                              | BF6792022.1           | EST_HUMAN               | 602153868F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE:4284601 5  |
| 2214             | 14942           | 27682          | 2.8               | 5.0E-81                              | BE288042.1            | EST_HUMAN               | 601125505F1 NIH_MGC_8 Homo sapiens cDNA clone IMAGE:3345480 5   |
| 8311             | 21005           | 34143          | 1.83              | 5.0E-81                              | AB007923.1            | NT                      | Homo sapiens mRNA for KIAA0454 protein, partial cds   |
| 8311             | 21005           | 34144          | 1.83              | 5.0E-81                              | AB007923.1            | NT                      | Homo sapiens mRNA for KIAA0454 protein, partial cds   |
| 9548             | 22201           | 35383          | 0.77              | 5.0E-81                              | M60316.1              | NT                      | Human transforming growth factor-beta (tgf-beta) mRNA, complete cds   |
| 6548             | 22201           | 35384          | 0.77              | 5.0E-81                              | M60316.1              | NT                      | Human transforming growth factor-beta (tgf-beta) mRNA, complete cds   |
| 11577            | 24176           | 37491          | 2.23              | 5.0E-81                              | 85066334              | NT                      | Homo sapiens hypothetical protein (FLJ11045), mRNA  |
| 11839            | 24423           | 37764          | 1.3               | 5.0E-81                              | 11626341              | NT                      | Homo sapiens armadillo repeat gene deleted in velocardiofacial syndrome (ARVCF), mRNA                           |
| 686              | 13461           | 26109          | 2.03              | 4.0E-81                              | A1521435.1            | EST_HUMAN               | th80e12.x1 NCI_CGAP_Ov23 Homo sapiens cDNA clone IMAGE:2122702 3' similar to TR-Q855660 Q855660                 |
| 1815             | 14555           | 27270          | 1.31              | 4.0E-81                              | AW778612.1            | EST_HUMAN               | NCI_CGAP_Ov23 Homo sapiens cDNA clone IMAGE:3035807 3' similar to SW:COPG_BOVIN P33620 COATOMER GAMMA SUBUNIT : |

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Single Exon Probes Expressed in Brain

| Probe SEQ ID NO. | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 3168             | 15831           | 28580          | 3.98              | 4.0E-81                              | AB037768.1            | NT                      | Homo sapiens mRNA for KIAA1345 protein, partial cds   |
| 3619             | 16372           | 28013          | 0.98              | 4.0E-81                              | AW004808.1            | EST_HUMAN               | ws20103_x1_NCI_CGAAP_C63 Homo sapiens cDNA clone IMAGE:23052289 3' similar to TR:043815 O43815 STRIATIN_; |
| 4139             | 16881           | 28503          | 2.26              | 4.0E-81                              | AF263308.1            | NT                      | Homo sapiens rab3 interacting protein variant 2 mRNA, partial cds   |
| 4139             | 16881           | 28510          | 2.26              | 4.0E-81                              | AF263306.1            | NT                      | Homo sapiens rab3 interacting protein variant 2 mRNA, partial cds   |
| 4360             | 17098           | 28733          | 1.33              | 4.0E-81                              | 8823209               | NT                      | Homo sapiens hypothetical protein FLJ20220 (FLJ20220), mRNA   |
| 7177             | 18863           | 32834          | 1.11              | 4.0E-81                              | 4767893               | NT                      | Homo sapiens calcium channel, voltage-dependent L type, alpha 2/delta subunit (CACNA2) mRNA               |
| 7289             | 18862           | 32808          | 0.57              | 4.0E-81                              | 11420544              | NT                      | Homo sapiens ests variant gene 1 (ESTV1), mRNA  |
| 8185             | 20879           | 34016          | 3.59              | 4.0E-81                              | X06989.1              | NT                      | Human mRNA for amyloid A4(751) protein  |
| 8443             | 21135           | 34271          | 3.43              | 4.0E-81                              | U20197.1              | NT                      | Human cone photoreceptor cGMP phosphodiesterase alpha' subunit gene, exons 2 and 3                        |
| 8443             | 21135           | 34272          | 3.43              | 4.0E-81                              | U20197.1              | NT                      | Human cone photoreceptor cGMP phosphodiesterase alpha' subunit gene, exons 2 and 3                        |
| 9126             | 21814           | 34880          | 6.1               | 4.0E-81                              | AB018001.1            | NT                      | Homo sapiens mRNA for Death-associated protein kinase 2, complete cds                                     |
| 10001            | 22849           | 35881          | 1.53              | 4.0E-81                              | 11425281              | NT                      | Homo sapiens Igase 1, DNA, ATP dependent (LIG1), mRNA   |
| 10070            | 22718           | 36935          | 0.71              | 4.0E-81                              | 11439065              | NT                      | Homo sapiens acyl-Coenzyme A dehydrogenase family, member 8 (ACAD8), mRNA                                 |
| 10070            | 22718           | 36936          | 0.71              | 4.0E-81                              | 11439065              | NT                      | Homo sapiens acyl-Coenzyme A dehydrogenase family, member 8 (ACAD8), mRNA                                 |
| 11140            | 238907          | 37087          | 3.2               | 4.0E-81                              | 47580895              | NT                      | Homo sapiens vesicle trafficking protein sec22b (SEC22B), mRNA  |
| 11628            | 25280           | 30731          | 3.63              | 4.0E-81                              | 11417882              | NT                      | Homo sapiens calmodulin binding protein 1 (KIAA0330), mRNA  |
| 11928            | 25280           | 30732          | 3.63              | 4.0E-81                              | 11417882              | NT                      | Homo sapiens calmodulin binding protein 1 (KIAA0330), mRNA  |
| 12463            | 24891           | 31030          | 1.53              | 4.0E-81                              | 11417874              | NT                      | Homo sapiens beta-ureidopropinase (LOC51733), mRNA  |
| 12463            | 24891           | 31031          | 1.53              | 4.0E-81                              | 11417871              | NT                      | Homo sapiens beta-ureidopropinase (LOC51733), mRNA  |
| 12597            | 24911           | 31004          | 4.82              | 4.0E-81                              | 11417974              | NT                      | Homo sapiens transcobalamin II; macrocytic anemia (TCN2), mRNA  |
| 1244             | 13893           | 26658          | 12.38             | 3.0E-81                              | Y18000.1              | NT                      | Homo sapiens NF2 gene   |
| 1244             | 13893           | 26659          | 12.36             | 3.0E-81                              | Y18000.1              | NT                      | Homo sapiens NF2 gene   |
| 2371             | 15093           | 27832          | 1.23              | 3.0E-81                              | AF077188.1            | NT                      | Homo sapiens cullin 4A (CUL4A) mRNA, complete cds   |
| 2889             | 15765           | 28400          | 5.83              | 3.0E-81                              | 4506280               | NT                      | Homo sapiens pliotrophin (heparin binding growth factor 8, neuritis growth-promoting factor 1) (PTN) mRNA |
| 2889             | 15755           | 28401          | 5.83              | 3.0E-81                              | 4506280               | NT                      | Homo sapiens pliotrophin (heparin binding growth factor 8, neuritis growth-promoting factor 1) (PTN) mRNA |
| 2837             | 15605           | 28254          | 2.97              | 2.0E-81                              | BET784686.1           | EST_HUMAN               | 601474072F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3977121 5'   |
| 2837             | 15605           | 28255          | 2.97              | 2.0E-81                              | BET784686.1           | EST_HUMAN               | 601474072F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3977121 5'   |
| 3155             | 16507           | 28144          | 0.71              | 2.0E-81                              | AW611542.1            | EST_HUMAN               | hg85c01_x1_NCI_CGAAP_C64P_Kid11 Homo sapiens cDNA clone IMAGE:2852294 3'                                  |
| 7857             | 20552           | 32678          | 0.6               | 2.0E-81                              | 8923839               | NT                      | Homo sapiens hypothetical protein (LOC55686), mRNA  |

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|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 1402             | 14149           | 26829          | 1.13              | 1.0E-81                              | W_26839.1             | EST_HUMAN               | 333 Human retina cDNA randomly primed sublibrary Homo sapiens cDNA  |
| 3844             | 16397           | 28037          | 1.07              | 1.0E-81                              | AW86058.1             | EST_HUMAN               | EST372729 MAGE sequences, MAGF Homo sapiens cDNA clone IMAGE:485325 5' similar to zk45n09.11 Soares_pregnant uterus_NbHPU Homo sapiens cDNA clone IMAGE:485325 5' similar to      |
| 4479             | 17214           | 28839          | 3.59              | 1.0E-81                              | AA040370.1            | EST_HUMAN               | PIRS52437 S52437 CDP-diacylglycerol synthase - fruit fly;   |
| 4690             | 17335           | 28864          | 6.89              | 1.0E-81                              | BE047386.1            | EST_HUMAN               | tz45c04.1 YCI_CGAP_Bm52 Homo sapiens cDNA clone IMAGE:2281628 5'  |
| 5157             | 17830           | 37785          | 4.69              | 1.0E-81                              | U67823.1              | NT                      | Human aconitase hydratase (ACO2) gene, exon 3   |
| 5269             | 18075           | 30704          | 4.1               | 1.0E-81                              | 11432986              | NT                      | Homo sapiens polymerase (DNA directed), gamma (POLG), mRNA  |
| 6289             | 18076           | 30705          | 4.1               | 1.0E-81                              | 11432986              | NT                      | Homo sapiens polymerase (DNA directed), gamma (POLG), mRNA  |
| 5415             | 18214           | 30822          | 0.85              | 1.0E-81                              | AA255569.1            | EST_HUMAN               | ZR5608.11 Soares_NIHNPu_S1 Homo sapiens cDNA clone IMAGE:682475 5' similar to SW_PRI2_HUMAN   |
| 65668            | 18365           | 31273          | 3.47              | 1.0E-81                              | UE2351.1              | NT                      | Homo sapiens arm-repeat protein NIFRAP/heurgunglin (CTNND2) mRNA, partial cds   |
| 65668            | 18365           | 31274          | 3.47              | 1.0E-81                              | U52351.1              | NT                      | Homo sapiens arm-repeat protein NIFRAP/heurgunglin (CTNND2) mRNA, partial cds   |
| 60534            | 18834           | 31786          | 1.81              | 1.0E-81                              | BF874841.1            | EST_HUMAN               | 60213784F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE:4274535 5'  |
| 6453             | 19221           | 32218          | 0.69              | 1.0E-81                              | 11420985              | NT                      | Homo sapiens phosphodiesterase 1C, calmodulin-dependent (70kD) (PDE1C), mRNA  |
| 6453             | 19221           | 32219          | 0.59              | 1.0E-81                              | 11420985              | NT                      | Homo sapiens phosphodiesterase 1C, calmodulin-dependent (70kD) (PDE1C), mRNA  |
| 66339            | 19401           | 32416          | 0.87              | 1.0E-81                              | AJ133269.1            | NT                      | Homo sapiens cavolin-1/-2 locus, Cavin1, D7S522, genes CAV1/2 (exons 1, 2a, and 2b), CAV1 (exons 1 and 2)   |
| 70889            | 20333           | 33444          | 8.45              | 1.0E-81                              | 11432986              | NT                      | Homo sapiens polymerase (DNA directed), gamma (POLG), mRNA  |
| 96716            | 22328           | 35523          | 5.09              | 1.0E-81                              | BE858278.1            | EST_HUMAN               | 601645051F1 NIH_MGC_58 Homo sapiens cDNA clone IMAGE:3830228 5'   |
| 96716            | 22328           | 35524          | 5.09              | 1.0E-81                              | BE858278.1            | EST_HUMAN               | 601645051F1 NIH_MGC_58 Homo sapiens cDNA clone IMAGE:3830228 5'   |
| 98869            | 22519           | 35715          | 6.08              | 1.0E-81                              | BE5844867.1           | EST_HUMAN               | 601343160F1 NIH_MGC_53 Homo sapiens cDNA clone IMAGE:3685463 5'   |
| 10003            | 22851           | 36863          | 1.59              | 1.0E-81                              | AA630784.1            | EST_HUMAN               | act4d08.s1 Stratagene HeLa cell s3 837216 Homo sapiens cDNA clone IMAGE:858427 3' similar to SW:YB36_YEAST P38128 HYPOTHETICAL 60.5 KD PROTEIN IN RPS101-RPS13 INTERGENIC REGION; |
| 10005            | 22853           | 35985          | 3.27              | 1.0E-81                              | BE744545.1            | EST_HUMAN               | 601577339F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:3838280 5'  |
| 10005            | 22853           | 35986          | 3.27              | 1.0E-81                              | BE744545.1            | EST_HUMAN               | 601577339F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:3838280 5'  |
| 10405            | 23051           | 36269          | 1.59              | 1.0E-81                              | AW897550.1            | EST_HUMAN               | CMS-NN0059-140400-147-a12 NN0059 Homo sapiens cDNA  |
| 10680            | 23540           | 36787          | 2.9               | 1.0E-81                              | 8923698               | NT                      | Homo sapiens goglin-like protein (GLP), mRNA  |
| 11028            | 23700           | 36968          | 1.97              | 1.0E-81                              | AW844888.1            | EST_HUMAN               | MRO-CT00008-250589-019 CT00008 Homo sapiens cDNA  |
| 11028            | 23700           | 36967          | 1.97              | 1.0E-81                              | AW844888.1            | EST_HUMAN               | MRO-CT00008-250589-019 CT00008 Homo sapiens cDNA  |
| 11240            | 16397           | 28037          | 1.72              | 1.0E-81                              | AW86058.1             | EST_HUMAN               | EST372729 MAGE sequences, MAGF Homo sapiens cDNA  |
| 11507            | 24108           | 37421          | 1.98              | 1.0E-81                              | BF2D1253.1            | EST_HUMAN               | 6018677714F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:4110458 5'  |
| 12132            | 24622           | 31083          | 4.13              | 1.0E-81                              | 11448138              | NT                      | Homo sapiens phosphatidylserine acetyltransferase (DJ742C19.2), mRNA  |
| 12               | 12839           | 25452          | 3.6               | 8.0E-82                              | AF161406.1            | NT                      | Homo sapiens HSPC288 mRNA, partial cds  |

Table 4

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|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 104              | 12839           | 25452          | 2.45              | 8.0E-82                              | AF161408.1            | NT                      | Homo sapiens HSPC288 mRNA, partial cds  |
| 257              | 13065           | 25704          | 1.1               | 8.0E-82                              | U06988.1              | NT                      | Human CRFB4 gene, partial cds   |
| 785              | 13567           | 26227          | 2.83              | 8.0E-82                              | U06988.1              | NT                      | Human CRFB4 gene, partial cds   |
| 857              | 13836           | 26306          | 0.84              | 8.0E-82                              | U06988.1              | NT                      | Human CRFB4 gene, partial cds   |
| 1474             | 14221           | 26907          | 1.42              | 8.0E-82                              | AB037748.1            | NT                      | Homo sapiens mRNA for KIAA1327 protein, partial cds   |
| 1654             | 14400           | 27059          | 1.43              | 8.0E-82                              | 6715601               | NT                      | Homo sapiens glutathione peroxidase 5 (epididymal androgen-related protein) (GPX5), transcript variant 2 mRNA |
| 4219             | 16860           | 28585          | 0.9               | 8.0E-82                              | 8923432               | NT                      | Homo sapiens hypothetical protein FJ20461 (FJ20461), mRNA   |
| 1433             | 14180           |                | 1.7               | 7.0E-82                              | BF035327.1            | EST_HUMAN               | 601458531F1 NIH_3T3 clone IMAGE-3862086 5'  |
| 2769             | 15474           | 28216          | 1.2               | 7.0E-82                              | AU144050              | EST_HUMAN               | AU144050 HEMBA1 Homo sapiens cDNA clone HEMBA1000762 3'   |
| 11759            | 24350           | 37682          | 1.71              | 7.0E-82                              | AA663747.1            | EST_HUMAN               | aa663704.5t Strategene schizo brain S11 Homo sapiens cDNA clone IMAGE-989342 3'                               |
| 4104             | 16847           | 29473          | 0.71              | 5.0E-82                              | AA515812.1            | EST_HUMAN               | mf89e11.s1 NCI CGAP_C03 Homo sapiens cDNA clone IMAGE-925198 3'   |
| 16683            | 14412           | 27103          | 49.82             | 4.0E-82                              | AF0851484.1           | NT                      | Homo sapiens alpha-1butulin isoform 1 mRNA, complete cds  |
| 5409             | 182038          | 30976          | 0.8               | 4.0E-82                              | BF351691.1            | EST_HUMAN               | QV2-HT0540-120900-362-708 HT0540 Homo sapiens cDNA  |
| 5409             | 182038          | 30976          | 0.8               | 4.0E-82                              | BF351691.1            | EST_HUMAN               | QV2-HT0540-120900-362-708 HT0540 Homo sapiens cDNA  |
| 5671             | 184683          | 31381          | 0.65              | 4.0E-82                              | M25983.1              | NT                      | Human von Willebrand factor gene, exon 9  |
| 11718            | 24310           | 37683          | 11.81             | 4.0E-82                              | AI837300.1            | EST_HUMAN               | wp75009.x1 NCI CGAP_Bm25 Homo sapiens cDNA clone IMAGE-2467024 3' similar to TR-075276                        |
| 12374            | 24773           |                | 5.05              | 4.0E-82                              | AF0297701.2           | NT                      | Hom sapiens presenilin-1 gene, exons 1 and 2  |
| 271              | 13079           | 25721          | 21.85             | 3.0E-82                              | 4502168               | NT                      | Homo sapiens amyloid beta (A4) precursor protein (protease notch-II, Alzheimer disease) (APP), mRNA           |
| 687              | 13462           | 26110          | 3.11              | 3.0E-82                              | BE008705.1            | EST_HUMAN               | RC2-BN0120-010400-013-f02 BN0120 Homo sapiens cDNA  |
| 770              | 13542           | 26203          | 5.7               | 3.0E-82                              | 5174702               | NT                      | Homo sapiens transforming growth factor beta-activated kinase-binding protein 1 (TAB1), mRNA                  |
| 850              | 13620           | 26290          | 10.65             | 3.0E-82                              | 4502168               | NT                      | Homo sapiens amyloid beta (A4) precursor protein (protease notch-II, Alzheimer disease) (APP), mRNA           |
| 1039             | 13789           |                | 18.58             | 3.0E-82                              | AA725848.1            | EST_HUMAN               | ai23605.s1 Soares, testis_NHT Homo sapiens cDNA clone 1343648 3'  |
| 1333             | 14082           | 26758          | 1.25              | 3.0E-82                              | AW875973.1            | EST_HUMAN               | RC8-PT0001-190100-021-B02 PT0001 Homo sapiens cDNA  |
| 1450             | 14197           | 26881          | 3.44              | 3.0E-82                              | AL163285.2            | NT                      | Homo sapiens chromosome 21 segment HS21C035   |
| 1634             | 14631           | 27341          | 1.91              | 3.0E-82                              | BE813232.1            | EST_HUMAN               | RC1-BN0005-280700-018-f04 BN0005 Homo sapiens cDNA  |
| 2000             | 14735           | 27459          | 1.53              | 3.0E-82                              | 4501922               | NT                      | Homo sapiens adenylyl cyclase activating polypeptide 1 (pitressin) receptor type 1 (ADCYAP1R1) mRNA           |
| 3266             | 16029           |                | 2.52              | 3.0E-82                              | 5453811               | NT                      | Hom sapiens neurotropic tyrosine kinase, receptor, type 2 (NTRK2) mRNA  |

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| Probe Seq ID No: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 4884             | 17583           | 30216          | 0.98              | 3.0E-82                              | AA135978.1            | EST_HUMAN               | zr83b04.1 Stratagene lung carcinoma 837218 Homo sapiens cDNA clone IMAGE:5857115 similar to SW_PAGT_BOVIN Q07537 POLYPEPTIDE N-ACETYL GALACTOSAMINYL TRANSFERASE ; |
| 8052             | 20746           | 33878          | 3.14              | 3.0E-82                              | 11425208 NT           | EST_HUMAN               | Homo sapiens ankyrin-like with transmembrane domains 1 (ANKTM1), mRNA  |
| 84654            | 21143           | 34287          | 0.98              | 3.0E-82                              | 11432889 NT           | EST_HUMAN               | Homo sapiens contactin 8 (CNTN8), mRNA   |
| 84654            | 21143           | 34288          | 0.98              | 3.0E-82                              | 11432889 NT           | EST_HUMAN               | Homo sapiens contactin 8 (CNTN8), mRNA   |
| 91724            | 22375           | 35575          | 3.23              | 3.0E-82                              | AB028900.1            | NT                      | Homo sapiens mRNA for KIAA1077 protein, partial cds  |
| 91724            | 22375           | 35576          | 3.23              | 3.0E-82                              | AB028900.1            | NT                      | Homo sapiens mRNA for KIAA1077 protein, partial cds  |
| 583              | 13933           | 25890          | 2.55              | 2.0E-82                              | AB023216.1            | NT                      | Homo sapiens mRNA for KIAA0989 protein, partial cds  |
| 583              | 13933           | 25891          | 2.55              | 2.0E-82                              | AB023218.1            | NT                      | Homo sapiens mRNA for KIAA0989 protein, partial cds  |
| 1681             | 14426           | 27121          | 1.21              | 2.0E-82                              | AL046390.1            | EST_HUMAN               | DKFZp434M117_11_434 (synonym: hhes3) Homo sapiens cDNA clone DKFZp434M117_5  |
| 3827             | 16578           | 29210          | 1.25              | 2.0E-82                              | D87675.1              | NT                      | Homo sapiens DNA for amyloid precursor protein, complete cds   |
| 4208             | 16849           | 29575          | 1.17              | 2.0E-82                              | 4504116 NT            | EST_HUMAN               | Homo sapiens glutamate receptor, ionotropic, kainate 1 (GRIK1), mRNA   |
| 4521             | 17258           | 29890          | 1.01              | 2.0E-82                              | AB029018.1            | NT                      | Homo sapiens mRNA for KIAA1086 protein, partial cds  |
| 4521             | 17258           | 29891          | 1.01              | 2.0E-82                              | AB029018.1            | NT                      | Homo sapiens mRNA for KIAA1086 protein, partial cds  |
| 4816             | 17547           | 30172          | 2.85              | 2.0E-82                              | AF045555.1            | NT                      | Homo sapiens whscr1 (WBSCR1) and whscr5 (WBSCR5) genes, complete cds, alternatively spliced end . replication factor C subunit 2 (RFC2) gene, complete cds         |
| 5021             | 17742           | 30352          | 1.46              | 2.0E-82                              | 4507580 NT            | EST_HUMAN               | Homo sapiens tumor necrosis factor receptor superfamily, member 5 (TNFRSF5) mRNA   |
| 5021             | 17742           | 30353          | 1.46              | 2.0E-82                              | 4507580 NT            | EST_HUMAN               | Homo sapiens tumor necrosis factor receptor superfamily, member 5 (TNFRSF5) mRNA   |
| 5384             | 18184           | 30874          | 5.65              | 2.0E-82                              | AB018270.1            | NT                      | Homo sapiens mRNA for KIAA0727 protein, partial cds  |
| 6082             | 18861           | 31827          | 4.73              | 2.0E-82                              | AF234982.1            | NT                      | Homo sapiens FAMA11 splice variant a (FAMA11) mRNA, complete cds   |
| 7581             | 25426           |                | 0.91              | 2.0E-82                              | AI478428.1            | EST_HUMAN               | Im21g05_x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2157272_3'  |
| 7705             | 20359           | 339482         | 0.85              | 2.0E-82                              | 8923130 NT            | EST_HUMAN               | Homo sapiens hypothetical protein FLJ20128 (FLJ20128), mRNA  |
| 8204             | 20838           | 340635         | 2.18              | 2.0E-82                              | 11321570 NT           | EST_HUMAN               | Homo sapiens slit (Drosophila) homolog 3 (SLT73), mRNA   |
| 85688            | 21250           | 34397          | 0.45              | 2.0E-82                              | 7657340 NT            | EST_HUMAN               | Homo sapiens microtubule (mouse) homolog (MORC), mRNA  |
| 85688            | 21260           | 34398          | 0.45              | 2.0E-82                              | 7657340 NT            | EST_HUMAN               | Homo sapiens microtubule (mouse) homolog (MORC), mRNA  |
| 100090           | 226857          | 35870          | 1.84              | 2.0E-82                              | Y08032.1              | NT                      | Human endogenous retrovirus-K, LTR U5 and gag gene   |
| 10009            | 226857          | 35871          | 1.84              | 2.0E-82                              | Y08032.1              | NT                      | Human endogenous retrovirus-K, LTR U5 and gag gene   |
| 11237            | 23890           | 37187          | 1.27              | 2.0E-82                              | 11417191 NT           | EST_HUMAN               | Homo sapiens leucyl/cysteinyl aminopeptidase (UNPEP), mRNA   |
| 11237            | 23890           | 37188          | 1.27              | 2.0E-82                              | 11417191 NT           | EST_HUMAN               | Homo sapiens leucyl/cysteinyl aminopeptidase (UNPEP), mRNA   |
| 11279            | 23940           | 37233          | 4.45              | 2.0E-82                              | UB0736.1              | EST_HUMAN               | Homo sapiens CAGFB mRNA, partial cds   |
| 11279            | 23940           | 37234          | 4.45              | 2.0E-82                              | UB0736.1              | EST_HUMAN               | Homo sapiens CAGFB mRNA, partial cds   |
| 11750            | 24341           | 37670          | 1.91              | 2.0E-82                              | 5031660 NT            | EST_HUMAN               | Homo sapiens EGFI-like repeats and discoidin H-like domains 3 (EDIL3), mRNA  |
| 11857            | 24508           |                | 1.58              | 2.0E-82                              | N84850.1              | EST_HUMAN               | zb31d10_s1 Scores_nisHPA Homo sapiens cDNA clone IMAGE:3052013_3'  |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--|
| 12485 24844      |                 |                |                   | 3.47 2.0E-82                         | AA011278.1            | EST HUMAN  | 201909.1 Soares_fetal liver spleen_1NFLS_S1 Homo sapiens cDNA clone IMAGE:429568 5   |
| 12775 25029      |                 |                |                   | 1.95 2.0E-82                         | 11418097 NT           | Homo sapiens SRY (sex determining region Y)-box 10 (SOX10), mRNA   |  |
| 678 13358        | 25985           |                |                   | 1.14 1.0E-82                         | 11545921 NT           | Homo sapiens melanoma differentiation associated protein-5 (MDA5), mRNA  |  |
| 1186 13893       |                 |                |                   | 0.77 1.0E-82                         | BE885103.1            | EST HUMAN  | 601510859F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:3912207 5   |
| 1263 14012       | 26979           |                |                   | 3.1 1.0E-82                          | BE084398.1            | EST HUMAN  | RC4-BT0310-110300-015-10 BT0310 Homo sapiens cDNA  |
| 1284 14013       | 26880           |                |                   | 1.26 1.0E-82                         | AB011110.2            | NT   | Homo sapiens mRNA for KIAA0538 protein, partial cds  |
| 8941 21533       | 34678           |                |                   | 1.13 1.0E-82                         | AB037838.1            | NT   | Homo sapiens mRNA for KIAA1417 protein, partial cds  |
| 9553 22206       | 35390           |                |                   | 0.59 1.0E-82                         | AB014562.1            | NT   | Homo sapiens mRNA for KIAA0862 protein, partial cds  |
| 10145 22793      |                 |                |                   | 1.17 1.0E-82                         | BF516838.1            | EST HUMAN  | UH-BW17-aes-f-03-01JLs1 NCI_CGAP_Sub7 Homo sapiens cDNA clone IMAGE:3084053 3'   |
| 10846 23337      | 36576           |                |                   | 2.34 1.0E-82                         | AL163208.2            | NT   | Homo sapiens chromosome 21 segment HS21C009  |
| 8616 21307       | 34449           |                |                   | 4.51 9.0E-83                         | BF572220.1            | EST HUMAN  | 602150403F1 NIH_MGC_81 Homo sapiens cDNA clone IMAGE:4281561 5   |
| 10174 22822      | 36039           |                |                   | 0.53 9.0E-83                         | BE253347.1            | EST HUMAN  | 601117160F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3357734 5   |
| 1392 14139       | 28816           |                |                   | 3.33 8.0E-83                         | BE383973.1            | EST HUMAN  | 601273346F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:3614262 5   |
| 1676 15523       | 27115           |                |                   | 5.63 8.0E-83                         | N68951.1              | EST HUMAN  | 2844612.s1 Soares_fetal liver spleen_1NFLS Homo sapiens cDNA clone IMAGE:2858233 3'  |
| 13356 14084      | 28758           |                |                   | 0.97 7.0E-83                         | AW385626.1            | EST HUMAN  | QV4-LT0016-271289-068-111 LT0016 Homo sapiens cDNA   |
| 2868 15635       |                 |                |                   | 1.88 7.0E-83                         | AA584655.1            | EST HUMAN  | nt012h01.s1 NCI_CGAP_Phe1 Homo sapiens cDNA clone IMAGE:1100497 3' similar to contains Abu repetitive element                        |
| 4765 17497       |                 |                |                   | 6.68 7.0E-83                         | BF221813.1            | EST HUMAN  | Tp37a07-x1-NCI_CGAP_Pt28 Homo sapiens cDNA clone IMAGE:3847893 3' similar to TR-Q01316 Q9Y318 DJ207H1.1;                             |
| 5990 18742       | 31702           |                |                   | 0.58 7.0E-83                         | 11428657 NT           | Homo sapiens KIAA0100 gene product (KIAA0100), mRNA  |  |
| 11177 24311      | 37634           |                |                   | 1.4 7.0E-83                          | 5728753 NT            | Homo sapiens transcription factor CA150 (CA150), mRNA  |  |
| 11177 24311      | 37635           |                |                   | 1.4 7.0E-83                          | 6728763 NT            | Homo sapiens transcription factor CA150 (CA150), mRNA  |  |
| 3394 13179       | 25826           |                |                   | 1.98 6.0E-83                         | M33320.1              | NT   | Human platelet Glycoprotein IIb (GP IIb) gene, exons 2-29  |
| 1779 14520       | 27224           |                |                   | 1.5 6.0E-83                          | AW573088.1            | EST HUMAN  | h31103.x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2833525 3' similar to SW:yBEEB_HAEIN P44711 HYPOTHETICAL PROTEIN H0034.; |
| 3017 15763       | 28432           |                |                   | 0.71 6.0E-83                         | AW818405.1            | EST HUMAN  | QV4-ST0234-181189-037-405 ST0234 Homo sapiens mRNA   |
| 3048 15812       |                 |                |                   | 1.08 6.0E-83                         | AF231919.1            | NT   | Homo sapiens chromosome 21 unknown mRNA  |
| 5211 18019       | 30841           |                |                   | 2.02 6.0E-83                         | 4507866 NT            | Homo sapiens VAMP (vesicle-associated membrane protein)-associated protein A (33kD) (VAPA) mRNA, and translated products |  |
| 6933 18716       | 31674           |                |                   | 1.52 6.0E-83                         | AJ010770.1            | NT   | Homo sapiens hyperon gene, exons 1-50  |
| 7401 20079       | 33160           |                |                   | 2.27 6.0E-83                         | 11422204 NT           | Homo sapiens met proto-oncogene (hepatocyte growth factor receptor) (MET), mRNA  |  |
| 9575 22223       | 35413           |                |                   | 2.85 6.0E-83                         | 4505314 NT            | Homo sapiens myomesin (M-protein) 2 (165kD) (MYOM2), mRNA  |  |
| 9669 22321       | 35517           |                |                   | 2.34 6.0E-83                         | 11430647 NT           | Homo sapiens pre-mRNA splicing factor similar to S. cerevisiae Pip18 (PRP18), mRNA                                       |  |
| 9669 22321       | 35518           |                |                   | 2.34 6.0E-83                         | 11430647 NT           | Homo sapiens pre-mRNA splicing factor similar to S. cerevisiae Pip18 (PRP18), mRNA                                       |  |

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| Probe Seq ID No: | Exon Seq ID No: | ORF Seq ID No: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|---|
| 11517            | 24117           |                | 2.53              | 6.0E-83 AA486105.1                   | EST_HUMAN             | NT   | ab14610.s1 Stratagene lung (#8372-10) Homo sapiens cDNA clone IMAGE:840810 3' similar to contains THR12 THR repetitive element; |
| 11908            | 24472           |                | 4.27              | 6.0E-83 AF240786.1                   | EST_HUMAN             | NT   | Homo sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1) genes, complete cds        |
| 925              | 13692           |                | 2.03              | 5.0E-83 U17883.1                     | EST_HUMAN             | NT   | Human succinate dehydrogenase iron-protein subunit (sdhB) gene, exon 5  |
| 2043             | 15526           |                | 1.55              | 5.0E-83 AF008305.1                   | EST_HUMAN             | NT   | Homo sapiens proteasome regulatory subunit (SUG2) mRNA, complete cds  |
| 36229            | 16382           | 26022          | 1.18              | 5.0E-83 AL133207.2                   | EST_HUMAN             | NT   | Novel human gene mapping to chromosome X  |
| 39886            | 16836           | 29275          | 0.77              | 5.0E-83 4885190                      | EST_HUMAN             | NT   | Homo sapiens deoxyribonuclease I (DNASE1), mRNA   |
| 6020             | 17741           | 30350          | 11.53             | 5.0E-83 4557013                      | EST_HUMAN             | NT   | Homo sapiens catalase (CAT) mRNA  |
| 5020             | 17741           | 30351          | 11.53             | 5.0E-83 4557013                      | EST_HUMAN             | NT   | Homo sapiens catalase (CAT) mRNA  |
| 5093             | 17812           | 30428          | 1.07              | 6.0E-83 5031660                      | EST_HUMAN             | NT   | Homo sapiens EGFR-like repeats and discoidin-like domains 3 (EDIL3), mRNA   |
| 5093             | 17812           | 30429          | 1.07              | 5.0E-83 5031660                      | EST_HUMAN             | NT   | Homo sapiens EGFR-like repeats and discoidin-like domains 3 (EDIL3), mRNA   |
| 625              | 19404           | 26039          | 1.72              | 4.0E-83 AF224689.1                   | EST_HUMAN             | NT   | Homo sapiens mannosidase, beta A, lysosomal (MANBA) gene, and ubiquitin-conjugating enzyme E2D 3 (UBE2D3) genes, complete cds   |
| 977              | 13142           |                | 4.9               | 3.0E-83 AA368311.1                   | EST_HUMAN             | EST78542 Placenta    Homo sapiens cDNA clone IMAGE:1133262 similar to contains THR12 THR repetitive element;     |   |
| 2780             | 15485           |                | 1.33              | 3.0E-83 AA632654.1                   | EST_HUMAN             | EST78542 Placenta    Homo sapiens cDNA clone IMAGE:1133262 similar to contains THR12 THR repetitive element;     |   |
| 6483             | 19250           |                | 0.62              | 3.0E-83 AI217223.1                   | EST_HUMAN             | qf73ed08_x1 Scores_NHT Homo sapiens cDNA clone IMAGE:17565682 3'   |   |
| 1782             | 14532           | 27240          | 1.86              | 2.0E-83 AA980492.1                   | EST_HUMAN             | cd64905.s1 Scores_NHT Homo sapiens cDNA clone IMAGE:1621592 3' similar to TR-Q92814 Q92814 MYELOBLAST KIAA0216 ; |   |
| 1782             | 14532           | 27241          | 1.86              | 2.0E-83 AA980492.1                   | EST_HUMAN             | cd64905.s1 Scores_NHT Homo sapiens cDNA clone IMAGE:1621592 3' similar to TR-Q92814 Q92814 MYELOBLAST KIAA0216 ; |   |
| 1818             | 14655           | 27365          | 4.07              | 2.0E-83 N66931.1                     | EST_HUMAN             | EST4812.s1 Scores_fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:285823 3'                               |   |
| 2858             | 15624           | 28268          | 1.1               | 2.0E-83 BE826894.1                   | EST_HUMAN             | RC8-E10046-280600-013-H12 ET0046 Homo sapiens cDNA   |   |
| 3263             | 16025           |                | 1.89              | 2.0E-83 1140834                      | EST_HUMAN             | Homo sapiens sal (Drosophila)-like 1 (SALL1), mRNA   |   |
| 3758             | 16508           |                | 0.7               | 2.0E-83 AL163202.2                   | EST_HUMAN             | Homo sapiens chromosome 21 segment HS21C002  |   |
| 4302             | 17041           | 28668          | 4.11              | 2.0E-83 AF202879.1                   | EST_HUMAN             | Homo sapiens hematopoietic progenitor cell antigen CD34 precursor (CD34) mRNA, partial cds                       |   |
| 4604             | 17339           | 29468          | 6.14              | 2.0E-83 7708398                      | EST_HUMAN             | Homo sapiens ankyrin repeat-containing protein ASB-2 (LOC51876), mRNA  |   |
| 4604             | 17339           | 28669          | 6.14              | 2.0E-83 7708398                      | EST_HUMAN             | Homo sapiens ankyrin repeat-containing protein ASB-2 (LOC51876), mRNA  |   |
| 5169             | 17897           | 30620          | 0.9               | 2.0E-83 U06878.1                     | EST_HUMAN             | Human carcinoembryonic antigen gene family member 18 (CGM18) gene, exons A1 and B1                               |   |
| 5755             | 18547           | 31468          | 0.85              | 2.0E-83 11428081                     | EST_HUMAN             | Homo sapiens membrane protein CH1 (CH1), mRNA  |   |
| 6876             | 18822           | 31603          | 1.31              | 2.0E-83 BE885401.1                   | EST_HUMAN             | 601507482F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:3808088 5'  |   |
| 6847             | 18409           | 32423          | 1.12              | 2.0E-83 AF128533.1                   | EST_HUMAN             | Homo sapiens F-box protein FBX3b (FBX3B) mRNA, partial cds   |   |
| 7335             | 20017           | 33085          | 6.38              | 2.0E-83 AF128533.1                   | EST_HUMAN             | Homo sapiens F-box protein FBX3b (FBX3B) mRNA, partial cds   |   |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Meet Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|--|
| 7704             | 20367           | 33480          | 0.64              | 2.0E-83                    | BF105097.1            | EST_HUMAN               | 6018220890F1 NIH_MGC_75 Homo sapiens cDNA clone IMAGE-4042318 5'   |
| 7742             | 20438           | 33580          | 0.78              | 2.0E-83                    | AB001025.1            | NT                      | Homo sapiens mRNA for brain ryandine receptor, complete cds  |
| 7742             | 20438           | 33581          | 0.78              | 2.0E-83                    | AB001025.1            | NT                      | Homo sapiens mRNA for brain ryandine receptor, complete cds  |
| 7886             | 20581           | 33710          | 1.79              | 2.0E-83                    | U68707.1              | NT                      | Rattus norvegicus densin-180 mRNA, complete cds  |
| 8213             | 20907           | 34042          | 2.05              | 2.0E-83                    | AF011920.1            | NT                      | Homo sapiens protein kinase CK2 catalytic subunit alpha gene, exon 1   |
| 8213             | 20907           | 34043          | 2.05              | 2.0E-83                    | AF011920.1            | NT                      | Homo sapiens protein kinase CK2 catalytic subunit alpha gene, exon 1   |
| 9494             | 22147           | 35328          | 0.48              | 2.0E-83                    | 5453881               | NT                      | Homo sapiens phosphotyrosine kinase, gamma 1 (muscle) (PHKG1) mRNA   |
| 9494             | 22147           | 35329          | 0.48              | 2.0E-83                    | 5453881               | NT                      | Homo sapiens phosphotyrosine kinase, gamma 1 (muscle) (PHKG1) mRNA   |
| 8834             | 22582           | 35780          | 4.01              | 2.0E-83                    | M22094.1              | NT                      | Human neural cell adhesion molecule (N-CAM) secreted isoform mRNA, 3' end  |
| 8834             | 22582           | 35781          | 4.01              | 2.0E-83                    | M22094.1              | NT                      | Human neural cell adhesion molecule (N-CAM) secreted isoform mRNA, 3' end  |
| 10016            | 22684           | 35881          | 1.39              | 2.0E-83                    | AU117659              | EST_HUMAN               | AU117659 HEMBA1 Homo sapiens cDNA clone HEMBA1001810 5'  |
| 10089            | 22737           | 35982          | 0.77              | 2.0E-83                    | AW505600.1            | EST_HUMAN               | U+H-BN0-std-h-07-0-U1 r1 NIH_MGC_50 Homo sapiens cDNA clone IMAGE-3081852 5'   |
| 10753            | 23438           | 36882          | 6.84              | 2.0E-83                    | 11436448              | NT                      | Homo sapiens KIAA0985 protein (KIAA0985), mRNA   |
| 10845            | 23527           | 36770          | 2.19              | 2.0E-83                    | AL134452.1            | EST_HUMAN               | DKFZ5471135_r1 547 (synonym: hfar1) Homo sapiens cDNA clone DKFZ5471135 5'   |
| 10845            | 23527           | 36771          | 2.19              | 2.0E-83                    | AL134452.1            | EST_HUMAN               | DKFZ5471135_r1 547 (synonym: hfar1) Homo sapiens cDNA clone DKFZ5471135 5'   |
| 12522            | 24889           |                | 3.85              | 2.0E-83                    | AB011388.1            | NT                      | Homo sapiens gene for AF-6, complete cds   |
| 1330             | 14137           | 26813          | 2.18              | 1.0E-83                    | 4504328               | NT                      | Homo sapiens hydroxacyl-Coenzyme A thiolesterase/3-ketoacyl-Coenzyme A hydrolase (thiofunctional protein), beta subunit (HADHB) mRNA |
| 1330             | 14137           | 26814          | 2.18              | 1.0E-83                    | 4504328               | NT                      | Homo sapiens hydroxacyl-Coenzyme A thiolesterase/3-ketoacyl-Coenzyme A hydrolase (thiofunctional protein), beta subunit (HADHB) mRNA |
| 1442             | 14189           | 26873          | 0.98              | 1.0E-83                    | AF105067.1            | NT                      | Homo sapiens lipopolysaccharide-binding protein (LBP) mRNA, complete cds   |
| 1442             | 14189           | 26874          | 0.98              | 1.0E-83                    | AF105067.1            | NT                      | Homo sapiens lipopolysaccharide-binding protein (LBP) mRNA, complete cds   |
| 3179             | 15942           | 28583          | 1.18              | 1.0E-83                    | 7682349               | NT                      | Homo sapiens cell recognition molecule Caspr2 (KIAA0868), mRNA   |
| 3850             | 16800           | 29237          | 3.83              | 1.0E-83                    | AF083768.1            | NT                      | Rattus norvegicus brain specific catenin-binding protein CBP90 mRNA, partial cds   |
| 4220             | 16981           | 29588          | 1.99              | 1.0E-83                    | Z258322.1             | NT                      | H.sapiens gene for mitochondrial dodecenoyl-CoA delta-isomerase, exon 3  |
| 4881             | 17562           | 30184          | 3.36              | 1.0E-83                    | 4502166               | NT                      | Homo sapiens amyloid beta (A4) precursor protein (protease neprin-II, Alzheimer disease) (APP), mRNA                                 |
| 6558             | 18359           | 32273          | 1.85              | 1.0E-83                    | A1027614.1            | EST_HUMAN               | 09908.x1 Scares testis_NTT Homo sapiens cDNA clone IMAGE-1845431 3' similar to gb:NM4241 QM  |
| 3776             | 16528           | 29167          | 3.8               | 7.0E-84                    | BE901209.1            | EST_HUMAN               | PROTEIN (HUMAN);   |
| 1272             | 14021           | 26887          | 3.5               | 6.0E-84                    | BE328864.1            | EST_HUMAN               | 601675023F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE-3958853 5'  |
| 1272             | 14021           | 26888          | 3.5               | 6.0E-84                    | BE328864.1            | EST_HUMAN               | RC2-FN0119-200600-011-005 FN0119 Homo sapiens cDNA   |
| 2396             | 15117           | 27954          | 8.26              | 6.0E-84                    | AA778574.1            | EST_HUMAN               | aa86a03.s1 Strategene schizo brain S11 Homo sapiens cDNA clone IMAGE-971020 3'   |
| 5160             | 17892           |                | 3.33              | 6.0E-84                    | AL042863.2            | EST_HUMAN               | DKFZp434H0322_r1 434 (synonym: htas3) Homo sapiens cDNA clone DKFZp434H0322 5'   |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|--|---|
|                  |                 |                |                   |                            |                       |  | al47903_s1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:1460500 3' similar to gb:MM14338   |
| 5431             | 182330          | 30943          | 1.87              | 6.0E-84                    | AA897339.1            | EST_HUMAN  | VITAMIN K-DEPENDENT PROTEIN S PRECURSOR (HUMAN); Homo sapiens acetyl LDL receptor; SREC=scavenger receptor expressed by endothelial cells (SREC), mRNA                |
| 5574             | 18371           | 31282          | 1.04              | 6.0E-84                    | 11426718 NT           |  | Homo sapiens acetyl LDL receptor; SREC=scavenger receptor expressed by endothelial cells (SREC), mRNA   |
| 5574             | 18371           | 31283          | 1.04              | 6.0E-84                    | 11426718 NT           | EST_HUMAN  | PM0-LT0018-180500-004-F02 LT0018 Homo sapiens cDNA  |
| 7373             | 20053           | 33134          | 2.94              | 6.0E-84                    | BE810371.1            | NT   | Homo sapiens pre-mRNA splicing factor (PRP10) mRNA, complete cds  |
| 7591             | 20259           | 33367          | 0.97              | 6.0E-84                    | AF038391.1            | EST_HUMAN  | PM4-F-T0054-160500-004-810 FT0054 Homo sapiens cDNA   |
| 7972             | 20687           | 33789          | 2.37              | 6.0E-84                    | BE770189.1            | EST_HUMAN  | EST86094 Testis   Homo sapiens cDNA 5' end  |
| 697              | 13472           | 28121          | 0.71              | 6.0E-84                    | AA382811.1            | EST_HUMAN  |   |
| 3013             | 15779           |                | 1.82              | 5.0E-84                    | AF108718.1            | NT   | Homo sapiens chromosome 3 subtelomeric region   |
| 6016             | 18768           | 31758          | 0.59              | 5.0E-84                    | AA167678.1            | EST_HUMAN  | zg3807.1 Stratagene HNT neuron (#837233) Homo sapiens cDNA clone IMAGE:632100 5' similar to TRC483915 G483915 RETROTRANSPOSSABLE L1 ELEMENT LRE2 FROM CHROMOSOME 1Q.; |
| 11633            | 24133           | 37438          | 3.17              | 5.0E-84                    | 11428740 NT           |  | Homo sapiens regulatory factor X_3 (influences HLA class II expression) (RFX3), mRNA  |
| 11652            | 24249           | 37570          | 1.77              | 5.0E-84                    | AB032857.1            | NT   | Homo sapiens mRNA for KIAA1131 protein, partial cds   |
| 11652            | 24249           | 37671          | 1.77              | 5.0E-84                    | AB032857.1            | NT   | Homo sapiens mRNA for KIAA1131 protein, partial cds   |
| 11613            | 24401           | 37738          | 1.44              | 5.0E-84                    | 11433550 NT           |  | Homo sapiens tropomodulin 2 (neuronal) (TMOD2), mRNA  |
| 1389             | 14138           | 28812          | 2.19              | 4.0E-84                    | AA885321.1            | EST_HUMAN  | wat6c04_x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2302086 3' similar to SW:NRDC_HUMAN_O43847 NARDILYSIN PRECURSOR :  |
| 4897             | 17624           | 30242          | 1.79              | 4.0E-84                    | AF089691.2            | NT   | Homo sapiens myosin light chain kinase isoform 2 (MLCK) mRNA, complete cds  |
| 5475             | 18274           | 31168          | 1.36              | 4.0E-84                    | 11388168 NT           | Homo sapiens protein tyrosine phosphatase, receptor type, G (PTPRG), mRNA  |   |
| 6476             | 18274           | 31169          | 1.36              | 4.0E-84                    | 11388168 NT           | Homo sapiens protein tyrosine phosphatase, receptor type, G (PTPRG), mRNA  |   |
| 6175             | 18952           | 31925          | 1.88              | 4.0E-84                    | AF058650.1            | NT   | Homo sapiens histone deacetylase 3 (HDAC3) gene, complete cds   |
| 7547             | 20217           | 33319          | 14.38             | 4.0E-84                    | 11421326 NT           | Homo sapiens KIAA0783 gene product (KIAA0783), mRNA                        |   |
| 8809             | 21601           | 34847          | 1.21              | 4.0E-84                    | 4557526 NT            | Homo sapiens discs, large (Drosophila) homolog 2 (chapsyn-110) (DLG2) mRNA |   |
| 8809             | 21501           | 34648          | 1.21              | 4.0E-84                    | 4557526 NT            | Homo sapiens discs, large (Drosophila) homolog 2 (chapsyn-110) (DLG2) mRNA |   |
| 10835            | 23517           | 36759          | 4.51              | 4.0E-84                    | AB032856.1            | NT   | Homo sapiens mRNA for KIAA1130 protein, partial cds   |
| 308              | 13112           | 25762          | 1.24              | 3.0E-84                    | AF026200.1            | NT   | Homo sapiens Bach1 protein homolog mRNA, partial cds  |
| 1853             | 14689           | 27401          | 1.15              | 3.0E-84                    | 5453855 NT            | Homo sapiens pericentriolar material 1 (PCM1) mRNA                         |   |
| 2001             | 14736           | 27460          | 2.41              | 3.0E-84                    | AL0888890.1           | Novel human mRNA containing Zinc finger C2H2 type domains                  |   |
| 3578             | 16333           | 28977          | 1.07              | 3.0E-84                    | AB026898.1            | NT   | Homo sapiens DNA, DLEC1 to ORC1L4 gene region, section 1/2 (DLEC1, ORC1L3, ORC1L4 genes, complete cds)  |
| 3731             | 16483           | 29121          | 5.2               | 3.0E-84                    | AF014459.1            | NT   | Homo sapiens X-linked juvenile retinoschisis precursor protein (XLRS1) mRNA, complete cds   |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|---|
| 10790            | 23473           |                |                   | 3.55                                 | AI983801.1            | EST HUMAN  | wu20d05.x1_Searces_Dickegraefe_colan_NHOD_Homo_sapiens cDNA clone IMAGE:2520585 3' similar to gbl:1503083 80S RIBOSOMAL PROTEIN L18A (HUMAN); |
| 2098             | 14829           | 27563          |                   | 6.94                                 | 2.0E-84 BE695397.1    | EST HUMAN  | CM1-B10785-180600-2724088 BT0785 Homo sapiens cDNA  |
| 2098             | 14829           | 27684          |                   | 6.94                                 | 2.0E-84 BE695397.1    | EST HUMAN  | CM1-B10786-180600-2724088 BT0786 Homo sapiens cDNA  |
| 2944             | 15710           | 28982          |                   | 9.31                                 | 2.0E-84 AF038943.1    | NT   | Homo sapiens as myelin transcription factor 1-like (MYT1-) mRNA, complete cds   |
| 2962             | 15728           | 28378          |                   | 0.77                                 | 2.0E-84 X85211.1      | NT   | H. sapiens DNA for endogenous retroviral like element   |
| 6439             | 18238           | 30952          |                   | 0.92                                 | 2.0E-84 BF51576.1     | EST HUMAN  | UH-B14-ad-e-024-U1.61 NCI CGAP_Sub8_Homo_sapiens cDNA clone IMAGE:3084963 3'  |
| 5439             | 18238           | 30953          |                   | 0.92                                 | 2.0E-84 BF51575.1     | EST HUMAN  | UH-B14-ad-e-024-U1.61 NCI CGAP_Sub8_Homo_sapiens cDNA clone IMAGE:3084963 3'  |
| 6540             | 18305           | 32310          |                   | 0.75                                 | 2.0E-84 H83570.1      | EST HUMAN  | yf56811.s1_Scaras_fetal_fine_spokeen_1NFLS_Homo_sapiens cDNA clone IMAGE:208324 3'  |
| 7958             | 20651           |                |                   | 1.35                                 | 2.0E-84 AI288674.1    | EST HUMAN  | qm87c08.x1 NCI CGAP_Lu6_Homo_sapiens cDNA clone IMAGE:18656728 3'   |
| 8284             | 20979           | 34118          |                   | 0.49                                 | 2.0E-84 AL183204.2    | NT   | Homo sapiens chromosome 21 segment HS21C004   |
| 8284             | 20978           | 34119          |                   | 0.49                                 | 2.0E-84 AL183204.2    | NT   | Homo sapiens chromosome 21 segment HS21C004   |
| 9245             | 21624           | 35084          |                   | 0.81                                 | 2.0E-84 AU120280.1    | EST HUMAN  | AU120280 HEMB1_Homo_sapiens cDNA clone HEMB1/000339 5'  |
| 9631             | 22283           | 35476          |                   | 0.61                                 | 2.0E-84 H22841.1      | EST HUMAN  | ymf8e11.11_Searces_infant brain INIB_Homo_sapiens cDNA clone IMAGE:40890251 3' similar to SP-APOH_RAT P28644_BETA-2-GL_YCOPROTEIN 1;          |
| 12159            | 24843           | 31100          |                   | 3                                    | 2.0E-84 BF448000.1    | EST HUMAN  | nae30a02.x1_Lipoidi_sympathetic_trunk_Homo_sapiens cDNA clone IMAGE:D1756G23.1;   |
| 12159            | 24843           | 31101          |                   | 3                                    | 2.0E-84 BF448000.1    | EST HUMAN  | nae30a02.x1_Lipoidi_sympathetic_trunk_Homo_sapiens cDNA clone IMAGE:D1756G23.1;   |
| 304              | 13108           | 25748          |                   | 1.89                                 | 1.0E-84 AF114488.1    | NT   | Homo sapiens Intercetin short isoform (ITSN)mRNA, complete cds  |
| 536              | 13319           | 25853          |                   | 20.84                                | 1.0E-84 4507852 NT    |  | Homo sapiens tyrosine 3-monooxygenase tryptophan 5-monooxygenase activation protein, zeta polypeptide (YWHAZ) mRNA                            |
| 703              | 13473           |                |                   | 1                                    | 1.0E-84 AAB84378.1    | EST HUMAN  | Hom sapiens complement component 5 (C5), mRNA   |
| 1270             | 14019           | 26885          |                   | 3.17                                 | 1.0E-84 AAB84378.1    | EST HUMAN  | sm85b11.51_Strategene_schizo_brain S11_Homo_sapiens cDNA clone IMAGE:3622885 3'   |
| 2048             | 14781           | 27568          |                   | 1.82                                 | 1.0E-84 BE382137.1    | EST HUMAN  | 601308068F1 NIH_MGC_44_Homo_sapiens cDNA clone IMAGE:36228257 5'  |
| 2220             | 14948           | 27688          |                   | 1.13                                 | 1.0E-84 11427197 NT   | Hom sapiens pericentriolar material 1 (PCM1), mRNA                         |   |
| 3753             | 16488           | 29123          |                   | 2.46                                 | 1.0E-84 AA720851.1    | EST HUMAN  | mrn12a06.s1 NCI CGAP_SS1_Homo_sapiens cDNA clone IMAGE:1239106 3'   |
| 4383             | 17120           | 29752          |                   | 5.01                                 | 1.0E-84 AJ228041.1    | NT   | Hom sapiens 959 kb contig between AML1 and C8R1 on chromosome 21q22; segment 1/3  |
| 4651             | 17385           | 30017          |                   | 3.53                                 | 1.0E-84 AL043314.2    | EST HUMAN  | DKFZp434N0323_11_434 (synonym hies2) Homo sapiens cDNA clone DKFZp434N0323 5'   |
| 4651             | 17385           | 30018          |                   | 3.53                                 | 1.0E-84 AL043314.2    | EST HUMAN  | DKFZp434N0323_11_434 (synonym hies3) Homo sapiens cDNA clone DKFZp434N0323 5'   |
| 4855             | 17120           | 28752          |                   | 2.67                                 | 1.0E-84 AJ228041.1    | NT   | Homo sapiens 959 kb contig between AML1 and C8R1 on chromosome 21q22; segment 1/3   |
| 5163             | 17870           | 30483          |                   | 1.15                                 | 1.0E-84 7656988 NT    | Hom sapiens catenin (cadherin-associated protein), alpha 2 (CTNNAA2), mRNA |   |
| 5630             | 18619           | 31651          |                   | 0.98                                 | 1.0E-84 11424422 NT   | Hom sapiens speckle-type POZ protein (SPOP), mRNA                          |   |

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| Probe SEQ ID NO: | Exon ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor  |
|------------------|-------------|----------------|-------------------|--------------------------------------|-----------------------|---|---|
| 6097             | 18875       | 31844          | 1.41              | 1.0E-84                              | S73482.1              | NT  | uterine water channel=28 kDa erythrocyte integral membrane protein homolog [human, uterus, mRNA, 1340 nt]                 |
| 6781             | 18525       | 325532         | 1.68              | 1.0E-84                              | AL049784.1            | NT  | Novel human gene mapping to chromosome 13   |
| 6781             | 18525       | 32653          | 1.68              | 1.0E-84                              | AL049784.1            | NT  | Novel human gene mapping to chromosome 13   |
| 7007             | 18659       | 32753          | 2.32              | 1.0E-84                              | AL049784.1            | NT  | Novel human gene mapping to chromosome 13   |
| 7369             | 20049       | 33130          | 1.26              | 1.0E-84                              | 8393894 NT            | Homo sapiens polymerase (DNA directed), alpha (POLA), mRNA                                |   |
| 7501             | 20137       | 33229          | 2.42              | 1.0E-84                              | 11430846 NT           | Homo sapiens NGFI-A binding protein 1 (ERG1) binding protein 1 (NAB1), mRNA               |   |
| 9435             | 22113       |                | 3.05              | 1.0E-84                              | 5031984 NT            | Homo sapiens nuclear transport factor 2 (p62/cell protein 15) (PP2B) mRNA                 |   |
| 9570             | 22322       | 35519          | 0.53              | 1.0E-84                              | AF224511.1            | NT  | Homo sapiens Cα2+-binding protein CABP3 (CABP3) gene, exon 8 and partial cds  |
| 9690             | 17800       | 30588          | 3.05              | 1.0E-84                              | 4507848 NT            | Homo sapiens ubiquitin specific protease 13 (Isopeptidase T-3) (USP13) mRNA               |   |
| 9690             | 17900       | 30589          | 3.05              | 1.0E-84                              | 4507848 NT            | Homo sapiens ubiquitin specific protease 13 (Isopeptidase T-3) (USP13) mRNA               |   |
| 10498            | 23142       | 36368          | 1.08              | 1.0E-84                              | 11437366 NT           | Homo sapiens glutamate receptor, ionotropic, AMPA 4 (GRIA4), mRNA                         |   |
| 12046            | 24568       |                | 2.34              | 1.0E-84                              | 11417812 NT           | Homo sapiens purinergic receptor P2X-like 1, orphan receptor (P2RXL1), mRNA               |   |
| 12151            | 24638       | 31098          | 3.2               | 1.0E-84                              | 11418185 NT           | Homo sapiens acoritase 2, mitochondrial (ACO2), mRNA                                      |   |
| 948              | 13712       |                | 1.08              | 9.0E-85                              | AL163209.2            | NT  | Homo sapiens chromosome 21 segment HS21C009   |
| 1051             | 13810       | 26469          | 2.39              | 9.0E-85                              | U51432.1              | NT  | Homo sapiens nuclear protein Skip mRNA, complete cds  |
| 1051             | 13810       | 28470          | 2.39              | 9.0E-85                              | U51432.1              | NT  | Homo sapiens nuclear protein Skip mRNA, complete cds  |
| 1380             | 14108       | 28783          | 0.95              | 9.0E-85                              | 4758989 NT            | Homo sapiens leupadin (LDPI), mRNA  |   |
| 1572             | 14319       | 27004          | 1.23              | 9.0E-85                              | M33282.1              | NT  | Human plasmalogens gene, exon 7   |
| 1572             | 14319       | 27005          | 1.23              | 9.0E-85                              | M33282.1              | NT  | Human plasmalogens gene, exon 7   |
| 1670             | 14415       | 27108          | 3.8               | 9.0E-85                              | 7657020 NT            | Homo sapiens DKF4p434P211 protein (DKF4p434P211), mRNA                                    |   |
| 4225             | 16988       | 28581          | 0.98              | 9.0E-85                              | AL163280.2            | NT  | Homo sapiens chromosome 21 segment HS21C080   |
| 4824             | 17655       | 30177          | 0.98              | 9.0E-85                              | 5801879 NT            | Homo sapiens heat shock transcription factor 2 binding protein (HSF2BP), mRNA             |   |
| 4858             | 17585       | 30208          | 1.12              | 9.0E-85                              | AL163268.2            | NT  | Homo sapiens chromosome 21 segment HS21C088   |
| 1114             | 13871       | 26530          | 1.45              | 7.0E-85                              | LO5094.1              | NT  | Homo sapiens ribosomal protein L27 mRNA, complete cds   |
| 11842            | 24239       |                | 4.32              | 7.0E-85                              | AF113210.1            | NT  | Homo sapiens MSTP030 mRNA, complete cds   |
| 11392            | 23998       | 37500          | 3.35              | 6.0E-85                              | 11438873 NT           | Homo sapiens DEAD1H (Asp-Glu-Ala-Asp-His) box polypeptide 10 (RNA helicase) (DDX10), mRNA |   |
| 11392            | 23998       | 37501          | 3.35              | 6.0E-85                              | 11438873 NT           | Homo sapiens DEAD1H (Asp-Glu-Ala-Asp-His) box polypeptide 10 (RNA helicase) (DDX10), mRNA |   |
| 11768            | 24357       | 37690          | 1.29              | 6.0E-85                              | AA403053.1            | EST HUMAN   | Zf6261.1 Soares testis NHT Homo sapiens cDNA clone IMAGE:726889 5' similar to TRG313357/89 G13357/89 GAG-POL POLYPROTEIN. |
| 2332             | 15056       | 27782          | 1.49              | 5.0E-85                              | AL163284.2            | NT  | Homo sapiens chromosome 21 segment HS21C084   |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLASTE Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|-------------------------------------|-----------------------|-------------------------|---|
| 4389 17138       |                 |                |                   | 0.8                                 | 5.0E-85 AF211189.1    | NT                      | Homo sapiens T-type calcium channel alpha1 subunit Alpha11-a Isoform (CACNA1I) mRNA, complete cds                             |
| 5384 18166       | 30851           |                |                   | 1.4                                 | 5.0E-85 BF035867.1    | EST HUMAN               | 601458646F1 NIH MGC_88 Homo sapiens cDNA clone IMAGE-3882402 5'   |
| 6384 18166       | 30852           |                |                   | 1.4                                 | 5.0E-85 BF035867.1    | EST HUMAN               | 601458646F1 NIH MGC_88 Homo sapiens cDNA clone IMAGE-3882402 5'   |
| 11063 23733      | 37005           |                |                   | 2                                   | 5.0E-85 AF224689.1    | NT                      | Homo sapiens mannosidase, beta A, lysosomal (MANBA) gene, and ubiquitin-conjugating enzyme E2D 3 (UBE2D3) genes, complete cds |
| 12743 17138      |                 |                |                   | 5.28                                | 5.0E-85 AF211189.1    | NT                      | Homo sapiens T-type calcium channel alpha1 subunit Alpha11-a Isoform (CACNA1I) mRNA, complete cds                             |
| 6056 18836       | 31797           |                |                   | 1.51                                | 4.0E-85 BF677910.1    | EST HUMAN               | 602084730F1 NIH MGC_83 Homo sapiens cDNA clone IMAGE-4249087 5'   |
| 6056 18836       | 31798           |                |                   | 1.51                                | 4.0E-85 BF677910.1    | EST HUMAN               | 602084730F1 NIH MGC_83 Homo sapiens cDNA clone IMAGE-4249087 5'   |
| 10472 23118      |                 |                |                   | 1.3                                 | 4.0E-85 BE0792283.1   | EST HUMAN               | RC1-BT0623-120200-011-07 BT0623 Homo sapiens cDNA   |
| 1278 14028       | 26694           |                |                   | 2.98                                | 3.0E-85 AF096157.1    | NT                      | Homo sapiens protein phosphatase 2A B1 gamma subunit gene, exon 6   |
| 1773 14516       | 27215           |                |                   | 3.61                                | 3.0E-85 T97485.1      | EST HUMAN               | y63309.11 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE-121504 5'   |
| 4280 17019       | 28646           |                |                   | 6.53                                | 3.0E-85 BE267189.1    | EST HUMAN               | 6011689704F2 NIH MGC_7 Homo sapiens cDNA clone IMAGE-3533616 5'   |
| 4841 17571       | 30194           |                |                   | 1.45                                | 3.0E-85               | 11024885 NT             | Homo sapiens F-box only protein 24 (FBXO24), mRNA   |
| 4841 17571       | 30195           |                |                   | 1.45                                | 3.0E-85               | 11024885 NT             | Homo sapiens F-box only protein 24 (FBXO24), mRNA   |
| 5316 18120       | 30777           |                |                   | 1.07                                | 3.0E-85               | 11438001 NT             | Homo sapiens leucine rich protein (LPRP), mRNA  |
| 5894 18775       | 31787           |                |                   | 0.63                                | 3.0E-85               | 11422024 NT             | Homo sapiens met proto-oncogene (hepatocyte growth factor receptor) (MET), mRNA   |
| 6043 18823       | 31783           |                |                   | 5.71                                | 3.0E-85               | 7682309 NT              | Homo sapiens KIAA0783 gene product (KIAA0783), mRNA   |
| 6043 18823       | 31784           |                |                   | 5.71                                | 3.0E-85               | 7682309 NT              | Homo sapiens KIAA0783 gene product (KIAA0783), mRNA   |
| 6853 18653       |                 |                |                   | 7.79                                | 3.0E-85 AJ404468.1    | NT                      | Homo sapiens mRNA for dynen heavy chain (DNA-H9 gene)   |
| 7295 18978       | 33055           |                |                   | 0.91                                | 3.0E-85               | 11416870 NT             | Homo sapiens GTPase regulator associated with the focal adhesion kinase pp125(FAK); KIAA0521 protein (KIAA0521), mRNA         |
| 7771 20467       | 33591           |                |                   | 1.89                                | 3.0E-85 U44983.1      | NT                      | Homo sapiens DENN mRNA, complete cds  |
| 8406 21089       | 34235           |                |                   | 0.74                                | 3.0E-85               | 11525829 NT             | Homo sapiens C31-81 protein (LOC51108), mRNA  |
| 8877 21568       | 34712           |                |                   | 3.8                                 | 3.0E-85               | 11430889 NT             | Homo sapiens phospholipase C, epsilon (PLCE), mRNA  |
| 8206 22085       | 35257           |                |                   | 0.86                                | 3.0E-85               | 11421422 NT             | Homo sapiens small nuclear ribonucleoprotein polypeptide B'' (SNRPB2), mRNA   |
| 8206 22085       | 35258           |                |                   | 0.98                                | 3.0E-85               | 11421422 NT             | Homo sapiens small nuclear ribonucleoprotein polypeptide B'' (SNRPB2), mRNA   |
| 10381 23027      | 36242           |                |                   | 0.68                                | 3.0E-85 AF068842.1    | NT                      | Homo sapiens phospholipid scramblase mRNA, complete cds   |
| 10730 23418      | 368559          |                |                   | 1.88                                | 3.0E-85 BE150392.1    | EST HUMAN               | RC14-T0268-031289-012-f09 HT0268 Homo sapiens cDNA  |
| 11490 24091      | 37403           |                |                   | 2.25                                | 3.0E-85               | 5031680 NT              | Homo sapiens EGf-like repeats and discoidin Like domains 3 (EDIL3), mRNA  |
| 11824 24408      | 37742           |                |                   | 1.79                                | 3.0E-85 AB029030.1    | NT                      | Homo sapiens mRNA for KIAA1107 protein, partial cds   |
| 11824 24408      | 37743           |                |                   | 1.79                                | 3.0E-85 AB029030.1    | NT                      | Homo sapiens Ran GTPase activating protein 1 (RANGAP1), mRNA  |
| 12640 24937      |                 |                |                   | 1.98                                | 3.0E-85               | 11418177 NT             | Homo sapiens Ran GTPase activating protein 1 (RANGAP1), mRNA  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 1017             | 13777           | 28438          | 2.94              | 2.0E-85                              | AEP248540.1           | NT                      | Homo sapiens Intersectin 2 (SH3D1B) mRNA, complete cds  |
| 1383             | 14130           | 28903          | 0.97              | 2.0E-85                              | 7708205               | NT                      | Homo sapiens CGI-201 protein (LOC51340) mRNA  |
| 1389             | 14146           | 28924          | 8.28              | 2.0E-85                              | 5174775               | NT                      | Homo sapiens apolipoprotein C-II (APOC2) mRNA   |
| 1389             | 14146           | 28925          | 8.28              | 2.0E-85                              | 5174775               | NT                      | Homo sapiens apolipoprotein C-II (APOC2) mRNA   |
| 2226             | 14954           | 27892          | 1.53              | 2.0E-85                              | U10525.1              | NT                      | Human DNA polymerase beta gene, exons 12 and 13   |
| 2826             | 14053           |                | 5.28              | 2.0E-85                              | 7657468               | NT                      | Homo sapiens similar to rat integral membrane glycoprotein POMT21 (POMT21), mRNA  |
| 3022             | 16788           | 28435          | 1.18              | 2.0E-85                              | W50938.1              | NT                      | Human Ku (p70/p80) subunit mRNA, complete cds   |
| 4320             | 17039           | 28868          | 4.51              | 2.0E-85                              | 4505880               | NT                      | Homo sapiens plasmoglobin (PLG) mRNA  |
| 4527             | 17282           | 28898          | 1.22              | 2.0E-85                              | 4826977               | NT                      | Homo sapiens retin (RELN) mRNA  |
| 4854             | 17684           | 30207          | 0.97              | 2.0E-85                              | AL163284.2            | NT                      | Homo sapiens chromosome 21 segment HS21C084   |
| 9173             | 21843           | 35009          | 3.18              | 2.0E-85                              | AI760820.1            | EST_HUMAN               | wif7t08_x1 NCL_CGAP_Kid12 Homo sapiens cDNA clone IMAGE-2388431 3' similar to contains element NSR1 repetitive element; |
| 9549             | 22202           | 35385          | 1.08              | 2.0E-85                              | AB14450.1             | EST_HUMAN               | w049d03_x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE-2331461 3'   |
| 10162            | 22810           | 36029          | 1.32              | 2.0E-85                              | AB963384.1            | EST_HUMAN               | wm84d12_x1 NCI_CGAP_U12 Homo sapiens cDNA clone IMAGE-2443807 3'  |
| 2285             | 15010           |                | 2.86              | 1.0E-85                              | BE794308.1            | EST_HUMAN               | 6011691416F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE-3945818 5'   |
| 2392             | 15113           | 27850          | 8.42              | 1.0E-85                              | BB6118382.1           | EST_HUMAN               | 6014622817F1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE-38688021 5'   |
| 2392             | 15113           | 27851          | 8.42              | 1.0E-85                              | BE6118382.1           | EST_HUMAN               | 6014622817F1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE-38688021 5'   |
| 9881             | 22353           | 35528          | 4.38              | 1.0E-85                              | BE2578917.1           | EST_HUMAN               | 601109738F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE-3350563 5'   |
| 10842            | 23524           | 38768          | 2.77              | 1.0E-85                              | AA778785.1            | EST_HUMAN               | Z45f03_s1 Soares_fetal liver spleen 1NFLS_S1 Homo sapiens cDNA clone IMAGE-453246 3'                                    |
| 10842            | 23524           | 38767          | 2.77              | 1.0E-85                              | AA778785.1            | EST_HUMAN               | Z45f03_s1 Soares_fetal liver spleen 1NFLS_S1 Homo sapiens cDNA clone IMAGE-453246 3'                                    |
| 10978            | 23599           | 38847          | 1.73              | 1.0E-85                              | BF311692.1            | EST_HUMAN               | 601687003F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE-4126440 5'   |
| 10979            | 23599           | 38848          | 1.73              | 1.0E-85                              | BF311552.1            | EST_HUMAN               | 601687003F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE-4126440 5'   |
| 10897            | 23670           | 38827          | 1.28              | 1.0E-85                              | Y00052.1              | NT                      | Human mRNA for T-cell cyclophilin   |
| 11773            | 24394           | 37898          | 2.41              | 1.0E-85                              | AI188420.1            | EST_HUMAN               | 9f56a07_x1 NCI_CGAP_Bm25 Homo sapiens cDNA clone IMAGE-1880468 3'   |
| 12050            | 24722           | 31053          | 4.4               | 1.0E-85                              | 11417882              | NT                      | Homo sapiens calcineurin binding protein 1 (KIAA0330) mRNA  |
| 12285            | 24722           | 31053          | 4.74              | 1.0E-85                              | 11417882              | NT                      | Homo sapiens calcineurin binding protein 1 (KIAA0330) mRNA  |
| 14089            | 14153           |                | 11.18             | 9.0E-88                              | BE274217.1            | EST_HUMAN               | 601120778F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE-2867680 5'   |
| 11688            | 24283           | 37818          | 1.57              | 8.0E-86                              | 4503224               | NT                      | Homo sapiens cytochrome P450, subfamily 1F, polypeptide 1 (CYP2F1) mRNA   |
| 916              | 13883           | 28345          | 2.34              | 7.0E-88                              | AA8803801.1           | EST_HUMAN               | 888f08_s1 Soares_parathyroid tumor_NBHPA Homo sapiens cDNA clone IMAGE-1403669 3'                                       |
| 916              | 13883           | 28346          | 2.34              | 7.0E-88                              | AA8803801.1           | EST_HUMAN               | 888f08_s1 Soares_parathyroid tumor_NBHPA Homo sapiens cDNA clone IMAGE-1403558 3'                                       |
| 6103             | 18891           | 31848          | 1.02              | 7.0E-88                              | 888f8886              | NT                      | Homo sapiens tumor endothelial marker 7 precursor (TEM7) mRNA   |
| 6103             | 18891           | 31849          | 1.02              | 7.0E-88                              | 988f8886              | NT                      | Homo sapiens tumor endothelial marker 7 precursor (TEM7) mRNA   |
| 6880             | 17958           | 30653          | 8.65              | 7.0E-88                              | 11421737              | NT                      | Homo sapiens Tax1 (human T-cell leukemia virus type 1) binding protein 1 (TAXBP1) mRNA                                  |
| 8843             | 21335           | 34479          | 3.06              | 7.0E-88                              | L38557.1              | NT                      | Homo sapiens galactocerebrosidase (GALC) gene, exon 15  |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Match Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source                                       | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|---------------------------------------|-----------------------|---|--|
| 9599             | 22252           |                |                   | 1.39                                  | 7.0E-86               | 5453987 NT  | Homo sapiens RAN binding protein 7 (RANBP7), mRNA  |
| 9858             | 22310           | 35508          |                   | 2.27                                  | 7.0E-86               | 11526307 NT   | Homo sapiens DiGeorge syndrome critical region gene 6 (DGC6) mRNA  |
| 10882            | 23562           | 36809          |                   | 1.72                                  | 7.0E-86               | 11417012 NT   | Homo sapiens similar to transcription factor CA150 (H. sapiens) (LOC83170), mRNA                         |
| 10882            | 23562           | 36810          |                   | 1.72                                  | 7.0E-86               | 11417012 NT   | Homo sapiens similar to transcription factor CA160 (H. sapiens) (LOC83170), mRNA                         |
| 1271             | 14020           | 26688          |                   | 2.88                                  | 6.0E-86               | 4505492 NT  | Homo sapiens octoglutarate dehydrogenase (lipoyamide) (OGDH) mRNA  |
| 5105             | 17823           | 30440          |                   | 2.84                                  | 6.0E-86               | Y19139.1 NT   | Homo sapiens enteropeptidase gene, exons 20 and 21   |
| 6107             | 17825           | 30442          |                   | 1.07                                  | 6.0E-86               | 6005833 NT  | Homo sapiens 24 kDa intrinsic membrane protein (PMP24), mRNA   |
| 206              | 13018           | 26660          |                   | 4.98                                  | 4.0E-86               | BE547173.1 EST_HUMAN  | 601072594F1 NIH_MGC_12 Homo sapiens cDNA clone IMAGE:3488830 5'  |
| 5944             | 18728           | 31684          |                   | 12.1                                  | 4.0E-86               | BE295843.1 EST_HUMAN  | 601176865F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:3531853 5'  |
| 11205            | 13018           | 26660          |                   | 2.18                                  | 4.0E-86               | BE547173.1 EST_HUMAN  | 601072594F1 NIH_MGC_12 Homo sapiens cDNA clone IMAGE:3488830 5'  |
| 5509             | 18307           | 31208          |                   | 6.97                                  | 3.0E-86               | AW340946.1 EST_HUMAN  | x28h12.x1 NCI_CGAP_Li24 Homo sapiens cDNA clone IMAGE:2871719 3'   |
| 8160             | 20854           | 33985          |                   | 1.06                                  | 3.0E-86               | AV722329 HTB_Homo sapiens cDNA clone HTBSSD04 5'              |  |
| 10120            | 22768           | 35980          |                   | 3.37                                  | 3.0E-86               | BE58696F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:3911303 5' |  |
| 10120            | 22768           | 36891          |                   | 3.37                                  | 3.0E-86               | BE888479.1 EST_HUMAN  | 601069698F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:3911303 5'  |
| 11413            | 23180           | 36408          |                   | 5.14                                  | 3.0E-86               | AI659240.1 EST_HUMAN  | tut8b02.x1 NCI_CGAP_Pt28 Homo sapiens cDNA clone IMAGE:2251971 3'  |
| 11708            | 24303           | 37628          |                   | 1.6                                   | 3.0E-86               | 11037058 NT   | Homo sapiens myosin X(MYO10), mRNA   |
| 280              | 13068           | 25706          |                   | 2.02                                  | 2.0E-86               | AA306284.1 EST_HUMAN  | EST177232 Jurkat T-cells Y1 Home sapiens cDNA 6' end   |
| 405              | 13190           |                |                   | 2.58                                  | 2.0E-86               | AI163203.2 NT   | Human sapiens chromosome 21 segment HS21C003   |
| 1168             | 13922           | 26584          |                   | 3.21                                  | 2.0E-86               | NE8977.1 EST_HUMAN  | yz18e08.r1 Soesre multiple sclerosis, 2NHHMSP Homo sapiens cDNA clone IMAGE:283478 5'                    |
| 1478             | 14225           | 26810          |                   | 1.83                                  | 2.0E-86               | 4768827 NT  | Homo sapiens neutrophil III (NXXN3) mRNA   |
| 1478             | 14225           | 26891          |                   | 1.83                                  | 2.0E-86               | 475827 NT   | Homo sapiens neutrophil III (NXXN3) mRNA   |
| 2188             | 14917           | 27651          |                   | 5.09                                  | 2.0E-86               | 9835487 NT  | Human endogenous retrovirus, complete genome   |
| 2266             | 14982           | 27732          |                   | 1.55                                  | 2.0E-86               | AB033103.1 NT   | Homo sapiens mRNA for KIAA1277 protein, partial cds  |
| 3410             | 16168           | 28817          |                   | 1.3                                   | 2.0E-86               | AW866142.1 EST_HUMAN  | EST378215 MAGE resequences, MAG1 Homo sapiens cDNA   |
| 3729             | 18481           | 29118          |                   | 3.54                                  | 2.0E-86               | AF158778.1 NT   | Homo sapiens lysophosphatidic acid acyltransferase-dets (LPAT-4-dets) mRNA, complete cds                 |
| 3729             | 18481           | 29119          |                   | 3.54                                  | 2.0E-86               | AF158778.1 NT   | Homo sapiens lysophosphatidic acid acyltransferase-dets (LPAT-4-dets) mRNA, complete cds                 |
| 4019             | 16765           |                |                   | 2.84                                  | 2.0E-86               | AW515742.1 EST_HUMAN  | hd87698.x1 NCI_CGAP_G08 Homo sapiens cDNA clone IMAGE:2916542 3'   |
| 4737             | 17489           | 30108          |                   | 3.26                                  | 2.0E-86               | AF058480.1 NT   | Homo sapiens cAMP specific phosphodiesterase 8A (PDE8A) mRNA, partial cds                                |
| 5782             | 18573           | 31501          |                   | 1.52                                  | 2.0E-86               | Z16411.1 NT   | H. sapiens mRNA encoding phosphoproteinase C   |
| 6782             | 18573           | 31602          |                   | 1.52                                  | 2.0E-86               | Z16411.1 NT   | H. sapiens mRNA encoding phosphoproteinase C   |
| 6874             | 25098           | 32476          |                   | 0.69                                  | 2.0E-86               | 11419429 NT   | Homo sapiens similar to ectonucleotide pyrophosphatase/phosphodiesterase 3 (H. sapiens) (LOC83214), mRNA |
| 7908             | 20503           | 33733          |                   | 0.69                                  | 2.0E-86               | U84744.1 NT   | Human Chediak-Higashi syndrome protein short isoform (LYST) mRNA, complete cds                           |
| 8414             | 21107           |                |                   | 0.47                                  | 2.0E-86               | AI163227.2 NT   | Human sapiens chromosome 21 segment HS21C027   |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|---|
| 8472             | 21184           | 34307          | 2.31              | 2.0E-86                    | 11437135              | NT                      | Homo sapiens butyrobetaine (gamma), 2-oxoglutarate dioxygenase (gamma-butyrobetaine hydroxylase) (BBOX), mRNA                                     |
| 8472             | 21184           | 34308          | 2.31              | 2.0E-86                    | 11437135              | NT                      | Homo sapiens butyrobetaine (gamma), 2-oxoglutarate dioxygenase (gamma-butyrobetaine hydroxylase) (BBOX), mRNA                                     |
| 8801             | 21498           | 34640          | 0.85              | 2.0E-86                    | 10863376              | NT                      | Homo sapiens phospholipid scramblase 1 (PLSCR1), mRNA   |
| 9218             | 21897           | 35087          | 1.95              | 2.0E-86                    | 11422084              | NT                      | Homo sapiens chromosome segregation 1 (yeast homolog)-like (CSE1L), mRNA  |
| 10946            | 22892           | 36210          | 2.91              | 2.0E-86                    | 11545346              | NT                      | Homo sapiens basic-helix-loop-helix-PAS protein (NPAS3), mRNA   |
| 10945            | 22892           | 36211          | 2.91              | 2.0E-86                    | 11545346              | NT                      | Homo sapiens basic-helix-loop-helix-PAS protein (NPAS3), mRNA   |
| 10400            | 23046           | 36262          | 1.15              | 2.0E-86                    | AB037832              | 1                       | Homo sapiens mRNA for KIAA411 protein, partial cds  |
| 10820            | 23503           | 38742          | 2.64              | 2.0E-86                    | 4759051               | NT                      | Homo sapiens ribosomal protein S8 kinase, 80kD, polypeptide 5 (RPS8&Lambda6) mRNA   |
| 12458            | 24827           | 31027          | 3.07              | 2.0E-86                    | 11418189              | NT                      | Homo sapiens thyroid autoantigen 70kD (Ku antigen) (G22P1), mRNA  |
| 12621            | 24926           |                | 4.26              | 2.0E-86                    | AB011398              | 1                       | Homo sapiens gene for AF-6, complete cds  |
| 1592             | 14398           | 27027          | 2.28              | 1.0E-86                    | 4828855               | NT                      | Homo sapiens NADH dehydrogenase (ubiquinone) Fe-S protein 1 (75kD) (NADH-coenzyme Q reductase) (NDUFS1), mRNA                                     |
| 3160             | 15923           | 28569          | 1.5               | 1.0E-86                    | 5453849               | NT                      | Homo sapiens fibulin 5 (FBNL5) mRNA   |
| 3229             | 15892           | 28845          | 2.7               | 1.0E-86                    | 120492                | 1                       | Human gamma-glutamyl transpeptidase mRNA, complete cds  |
| 3280             | 16051           | 28889          | 1.32              | 1.0E-86                    | AL163209              | 2                       | NT  |
| 3290             | 16051           | 28700          | 1.32              | 1.0E-86                    | AL163209              | 2                       | NT  |
| 3926             | 16676           | 28318          | 0.88              | 1.0E-86                    | 7706161               | NT                      | Homo sapiens hypothetical protein (LOC51318), mRNA  |
| 3926             | 16676           | 28319          | 0.88              | 1.0E-86                    | 7706161               | NT                      | Homo sapiens hypothetical protein (LOC51318), mRNA  |
| 4233             | 16974           | 28889          | 6.2               | 1.0E-86                    | AL163300              | 2                       | NT  |
| 4578             | 17313           | 28894          | 1.23              | 1.0E-86                    | 4507334               | NT                      | Homo sapiens synaptobatin 1 (SYN1), mRNA  |
| 5465             | 18264           | 31155          | 2                 | 1.0E-86                    | AL163284              | 2                       | NT  |
| 11608            | 18284           | 31155          | 1.37              | 1.0E-86                    | AL163284              | 2                       | NT  |
| 6272             | 18078           |                | 1.81              | 9.0E-87                    | AI160703              | 1                       | EST_HUMAN   |
| 7348             | 20029           | 33105          | 1.7               | 9.0E-87                    | 4757721               | NT                      | gb7/c08.x1 Severe fetal heart_Nbh-H19W Homo sapiens cDNA clone IMAGE:11708128 3' similar to SWXK1CJ_MOUSE P02536 KERATIN, TYPE I CYTOSKELETAL 10; |
| 7348             | 20029           | 33106          | 1.7               | 9.0E-87                    | 4757721               | NT                      | Homo sapiens a disintegrin and metalloprotease domain 22 (ADAM22), mRNA   |
| 467              | 13252           | 25683          | 15.83             | 8.0E-87                    | X62245                | 1                       | O. caniculus mRNA for elongation factor 1 alpha   |
| 2284             | 15019           | 27755          | 1.78              | 7.0E-87                    | BF063211              | 1                       | EST_HUMAN   |
| 2284             | 16019           | 27756          | 1.78              | 7.0E-87                    | BF063211              | 1                       | EST_HUMAN   |
| 6307             | 18079           | 32084          | 0.57              | 7.0E-87                    | AW890336              | 1                       | EST_HUMAN   |
| 8089             | 20783           | 33913          | 3.4               | 7.0E-87                    | BF352778              | 1                       | EST_HUMAN   |
| 8334             | 20425           | 33944          | 1.15              | 7.0E-87                    | BE712961              | 1                       | EST_HUMAN   |

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 Table 4  
 Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLASTE Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|---------------------------------|-----------------------|-------------------------|--|
| 8971             | 22610           | 35822          |                   | 3.85                            | 7.0E-87 AL043314.2    | EST HUMAN               | DKFZp434N0323 JI_434 (synonym: [b]es-2) Homo sapiens cDNA clone DKFZp434N0323 5'   |
| 8971             | 22610           | 35823          |                   | 3.85                            | 7.0E-87 AL043314.2    | EST HUMAN               | DKFZp434N0323 JI_434 (synonym: [b]es-2) Homo sapiens cDNA clone DKFZp434N0323 5'   |
| 10366            | 25129           |                |                   | 0.51                            | 7.0E-87 AI081595.1    | EST HUMAN               | ac59h01.51 Scores_NHIMPy_S1 Homo sapiens cDNA clone IMAGE:1660657 5'   |
| 10808            | 22489           | 36724          |                   | 6.65                            | 7.0E-87 K03002.1      | NT                      | Human mRNA from chromosome 15 gene with homology to MHC-HLA-SB-1 intron A  |
| 10808            | 22489           | 36725          |                   | 6.65                            | 7.0E-87 K03002.1      | NT                      | Human mRNA from chromosome 15 gene with homology to MHC-HLA-SB-1 intron A  |
| 35117            | 19273           | 28927          |                   | 0.99                            | 8.0E-87               | 7657/213                | Hom sapiens homomally upregulated neu tumor-associated kinase (HUNK), mRNA   |
| 5128             | 17846           | 30463          |                   | 0.69                            | 8.0E-87               | 7657/213                | Hom sapiens homomally upregulated neu tumor-associated kinase (HUNK), mRNA   |
| 6327             | 19097           | 32085          |                   | 2.02                            | 8.0E-87 AB029004.1    | NT                      | Hom sapiens mRNA for KIAA1081 protein, partial cds   |
| 10625            | 23318           |                |                   | 4.13                            | 8.0E-87               | 1143244 NT              | Hom sapiens similar to SET translocation (myeloid leukemia-associated) (H. sapiens) (LOC38102), mRNA                     |
| 1135             | 13891           | 26551          |                   | 1.42                            | 5.0E-87 AA382811.1    | EST HUMAN               | EST96034 Testis_Homo sapiens cDNA 5' end   |
| 12287            | 13881           | 26551          |                   | 1.56                            | 5.0E-87 AA382811.1    | EST HUMAN               | EST96034 Testis_Homo sapiens cDNA 5' end   |
| 845              | 13711           | 26376          |                   | 1.51                            | 4.0E-87 AL163210.2    | NT                      | Hom sapiens chromosome 21 segment HS21C1010  |
| 1149             | 13804           | 26566          |                   | 13.58                           | 4.0E-87 AB037835.1    | NT                      | Hom sapiens mRNA for KIAA1414 protein, partial cds   |
| 2024             | 14759           | 27488          |                   | 1.53                            | 4.0E-87 AB0707925.1   | NT                      | Hom sapiens mRNA for KIAA0456 protein, partial cds   |
| 2421             | 15142           | 27874          |                   | 1.03                            | 4.0E-87               | 7706298                 | Hom sapiens CG-60 protein (LOC51626), mRNA   |
| 2421             | 15142           | 27875          |                   | 1.03                            | 4.0E-87               | 7706298                 | Hom sapiens CG-60 protein (LOC51626), mRNA   |
| 3457             | 16213           | 28866          |                   | 1.8                             | 4.0E-87               | 6174574                 | Hom sapiens myeloid/lymphoid or mixed-lineage leukemia (Drosophila) homolog; translocated to, 4 (MLT4), mRNA             |
| 5360             | 18162           | 30846          |                   | 2.77                            | 4.0E-87 Q00321        | SWISSPROT               | ETS-RELATED PROTEIN 71 (ETS TRANSLOCATION VARIANT 2)   |
| 5954             | 18736           | 31695          |                   | 4.53                            | 4.0E-87 BE247284.1    | EST HUMAN               | TCBAPIE4051 Pediatric pre-B cell acute lymphoblastic leukemia Baytar-HGSC project=TCBA_Homo sapiens cDNA clone TCBAp4051 |
| 7670             | 20334           | 33445          |                   | 0.72                            | 4.0E-87 L48524.1      | NT                      | Hom sapiens tuberin (TSC2) gene, exon 10   |
| 11118            | 23788           | 37068          |                   | 3.44                            | 4.0E-87 M60578.1      | NT                      | Human von Willebrand factor pseudogene corresponding to exons 23 through 34  |
| 12398            | 25268           | 39721          |                   | 1.5                             | 4.0E-87               | 11417862                | Hom sapiens cathepsin binding protein 1 (KIAA0330), mRNA   |
| 12398            | 25269           | 39722          |                   | 1.5                             | 4.0E-87               | 11417862                | Hom sapiens cathepsin binding protein 1 (KIAA0330), mRNA   |
| 12541            | 24881           |                |                   | 2.25                            | 4.0E-87               | 11417812                | Hom sapiens purinergic receptor P2X-like 1, orphan receptor (P2RXL1), mRNA   |
| 2779             | 15484           | 28223          |                   | 2.77                            | 2.0E-87               | 4885420                 | Hom sapiens histone group (nonhistone chromosomal) protein 4 (HMG4), mRNA  |
| 3784             | 16516           | 29154          |                   | 0.83                            | 2.0E-87 AU16835.1     | EST HUMAN               | AU116835 HEMBA1 Homo sapiens cDNA clone HEMBA1000307 5'  |
| 4857             | 17586           | 30209          |                   | 1.28                            | 2.0E-87 BF376311.1    | EST HUMAN               | CMI-TN0038-150890-552-h03 TN0038 Homo sapiens cDNA   |
| 4807             | 17634           | 30249          |                   | 1.47                            | 2.0E-87 BE175478.1    | EST HUMAN               | RC5-HT0580-200300-031-304 HT0580 Homo sapiens cDNA clone IMAGE:3843730 5'  |
| 5575             | 18372           | 31284          |                   | 10.34                           | 2.0E-87 BE734190.1    | EST HUMAN               | 601569041F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3843730 5'  |
| 5575             | 18372           | 31285          |                   | 10.34                           | 2.0E-87 BE734190.1    | EST HUMAN               | 601569041F1 NIH_MGC_53 Homo sapiens cDNA clone IMAGE:3683348 5'  |
| 6234             | 19008           |                |                   | 9.81                            | 2.0E-87 BE567183.1    | EST HUMAN               | 601341338F1 NIH_MGC_53 Homo sapiens cDNA clone IMAGE:3683348 5'  |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit No.  | Top Hit Database Source                          | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|--------------|--|--|
| 6589             | 18362           | 32375          | 0.69              | 2.0E-87                              | NA8128.1     | EST_HUMAN  | Y21607.71 Scores fetal liver spleen 1NFL3 Homo sapiens cDNA clone IMAGE-2433986 6' |
| 6883             | 19800           | 32639          | 0.81              | 2.0E-87                              | AV654143 GLC | Homo sapiens cDNA clone GLCDSC04 3'              |  |
| 7073             | 19764           | 32828          | 1.58              | 2.0E-87                              | BE284432.1   | EST_HUMAN  | 601176032F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE-3531511 5'                    |
| 7128             | 19814           | 32882          | 0.94              | 2.0E-87                              | 1143046 NT   | Homo sapiens hect domain and RLD 2 (HERC2), mRNA |  |
| 7353             | 20034           | 33112          | 39.61             | 2.0E-87                              | NA8128.1     | EST_HUMAN  | Y21607.71 Scores fetal liver spleen 1NFL3 Homo sapiens cDNA clone IMAGE-2433986 5' |
| 7587             | 20255           | 33362          | 35.45             | 2.0E-87                              | NA8128.1     | EST_HUMAN  | Y21607.71 Scores fetal liver spleen 1NFL3 Homo sapiens cDNA clone IMAGE-2433986 5' |
| 8294             | 20988           | 34127          | 17.42             | 2.0E-87                              | X52851.1     | NT   | Human cyclophilin gene for cyclophilin (EC 5.2.1.8)                                |
| 8685             | 22337           |                | 5.72              | 2.0E-87                              | BE331138.1   | EST_HUMAN  | 601176315F1 NIH_MGC_39 Homo sapiens cDNA clone IMAGE-3610839 5'                    |
| 1159             | 15521           |                | 2.08              | 1.0E-87                              | 7705683      | NT   | Human sapiens putative glycosidase transfer protein (LOC51054), mRNA               |
| 1411             | 14158           | 26840          | 1.1               | 1.0E-87                              | AW361977.1   | EST_HUMAN  | PM2-C-T0265-141088-001-504 CT0265 Human sapiens cDNA                               |
| 1411             | 14158           | 26841          | 1.1               | 1.0E-87                              | AW361977.1   | EST_HUMAN  | PM2-C-T0265-141088-001-504 CT0265 Human sapiens cDNA                               |
| 3697             | 16451           | 29090          | 6.23              | 1.0E-87                              | Y00052.1     | NT   | Human mRNA for T-cell cyclophilin  |
| 3717             | 16470           | 29108          | 2.43              | 1.0E-87                              | 4758287      | NT   | Human sapiens neurechin III (NRXN3) mRNA   |
| 50965            | 17814           | 30491          | 0.69              | 1.0E-87                              | AF114487.1   | NT   | Human sapiens Intersectin long isoform (ITSN) mRNA, complete cds                   |
| 50985            | 17814           | 30492          | 0.69              | 1.0E-87                              | AF114487.1   | NT   | Human sapiens Intersectin long isoform (ITSN) mRNA, complete cds                   |
| 5149             | 12893           | 25570          | 1.04              | 1.0E-87                              | AD04091.1    | EST_HUMAN  | ct50d04.s1 Scores testis NHT Homo sapiens cDNA clone IMAGE-1620199 3'              |
| 6132             | 18910           | 31878          | 1.91              | 1.0E-87                              | AF073371.1   | NT   | Human sapiens growth factor receptor-bound protein 10 (GRB10) gene, exon 8         |
| 6132             | 18910           | 31879          | 1.91              | 1.0E-87                              | AF073371.1   | NT   | Human sapiens growth factor receptor-bound protein 10 (GRB10) gene, exon 8         |
| 7077             | 19758           | 32832          | 0.82              | 1.0E-87                              | AF038617.1   | NT   | Human sapiens corticotropin-releasing factor type 1 receptor gene, exon 8          |
| 7077             | 19758           | 32833          | 0.62              | 1.0E-87                              | AF038617.1   | NT   | Human sapiens corticotropin-releasing factor type 1 receptor gene, exon 8          |
| 7083             | 19773           | 32838          | 1.18              | 1.0E-87                              | 4506788      | NT   | Human sapiens IQ motif containing GTPase activating protein 1 (IQGAP1) mRNA        |
| 7288             | 18881           | 33057          | 1.23              | 1.0E-87                              | 11431890     | NT   | Human sapiens protein kinase C, beta 1 (PRKCB1), mRNA                              |
| 8915             | 20710           | 33840          | 12.83             | 1.0E-87                              | AF214562.1   | NT   | Human sapiens tracheal epithelium enriched protein (PLUNC) gene, complete cds      |
| 8907             | 21489           | 34844          | 0.97              | 1.0E-87                              | AB022918.1   | NT   | Human sapiens mRNA for alpha2,3-sialyltransferase ST3Gal VI, complete cds          |
| 8907             | 21489           | 34845          | 0.97              | 1.0E-87                              | AB022918.1   | NT   | Human sapiens mRNA for alpha2,3-sialyltransferase ST3Gal VI, complete cds          |
| 9533             | 22186           | 35371          | 2.85              | 1.0E-87                              | BE818183.1   | EST_HUMAN  | RO8-BN0276-050700-012-E02 BN0276 Homo sapiens cDNA                                 |
| 9533             | 22186           | 35372          | 2.85              | 1.0E-87                              | BE818183.1   | EST_HUMAN  | RO8-BN0276-050700-012-E02 BN0276 Homo sapiens cDNA                                 |
| 10272            | 22920           | 36131          | 0.67              | 1.0E-87                              | M34428.1     | NT   | Human L-plastin mRNA, 5' end   |
| 10833            | 28325           | 36582          | 1.55              | 1.0E-87                              | 5729867      | NT   | Human sapiens hect domain and RLD 2 (HERC2), mRNA                                  |
| 10821            | 28601           |                | 1.82              | 1.0E-87                              | D10058.1     | NT   | Human sapiens RchH1 gene, retrovirus-like element                                  |
| 10885            | 29841           | 36893          | 1.68              | 1.0E-87                              | 5031660      | NT   | Human sapiens EGFR-like repeats and discoidin-like domains 3 (EDIL3), mRNA         |
| 10885            | 29841           | 36894          | 1.68              | 1.0E-87                              | 6031660      | NT   | Human sapiens EGFR-like repeats and discoidin-like domains 3 (EDIL3), mRNA         |
| 12383            | 25404           |                | 3.54              | 1.0E-87                              | 7657632      | NT   | Human sapiens sulfotransferase-related protein (SULTX3), mRNA                      |
| 12809            | 25240           |                | 3.94              | 1.0E-87                              | 7657632      | NT   | Human sapiens sulfotransferase-related protein (SULTX3), mRNA                      |

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Table 4  
Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 1084             | 13842           | 28500          | 10.24             | 9.0E-88                              | AF167485.1            | NT                      | Homo sapiens double stranded RNA activated protein kinase (PKR) gene, exon 12   |
| 1327             | 14076           | 26750          | 2.76              | 9.0E-88                              | AB037820.1            | NT                      | Homo sapiens mRNA for KIAA1399 protein, partial cds   |
| 1327             | 14076           | 26751          | 2.76              | 9.0E-88                              | AB037820.1            | NT                      | Homo sapiens mRNA for KIAA1399 protein, partial cds   |
| 2115             | 14846           | 27675          | 1.57              | 9.0E-88                              | 7881701               | NT                      | Homo sapiens DKFZP586P1522 protein (DKFZP586P1522), mRNA  |
| 3617             | 16370           | 28012          | 1.36              | 9.0E-88                              | AL163209.2            | NT                      | Homo sapiens chromosome 21 segment HS21C009   |
| 4236             | 16977           | 2802           | 2.73              | 9.0E-88                              | X91929.1              | NT                      | H.sapiens ECE-1 gene (exon 9)   |
| 4236             | 16977           | 2803           | 2.73              | 9.0E-88                              | X91929.1              | NT                      | H.sapiens ECE-1 gene (exon 9)   |
| 4943             | 17670           | 30279          | 1.05              | 9.0E-88                              | AB026898.1            | NT                      | Homo sapiens DNA, DLEC1 to ORC1L4 gene region, section 1/2 (DLEC1, ORC1L3, ORC1L4 genes, exon 2 and flanking repeat regions)                                |
| 8919             | 21610           | 34754          | 3.82              | 8.0E-88                              | AF003528.1            | NT                      | Homo sapiens KIAA0063 gene product (KIAA0063), mRNA   |
| 1820             | 14559           |                | 1.02              | 5.0E-88                              | 7881887               | NT                      | K9719 Human fetal heart, Lambda ZAP Express Homo sapiens cDNA clone K9719 5 similar to ZINC FINGER PROTEIN HZF1   |
| 2845             | 15355           | 28100          | 3.76              | 5.0E-88                              | NB8398.1              | EST HUMAN               | Homo sapiens Intersectin short isoform (ITSN) mRNA, complete cds  |
| 3000             | 15768           | 28114          | 0.9               | 5.0E-88                              | AF114488.1            | NT                      | W06808_x1_NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:2336790 3 similar to contains Ala repetitive element;contains element MER22 MER22 repetitive element; |
| 3384             | 16143           |                | 2.28              | 5.0E-88                              | AI0893217.1           | EST HUMAN               | Homo sapiens Intersectin short isoform (ITSN) mRNA, complete cds  |
| 4887             | 17421           | 30058          | 0.83              | 5.0E-88                              | AF114488.1            | NT                      | Y0068b10.11 Scores infant brain 1NIB Homo sapiens cDNA clone IMAGE:47129 5  |
| 6672             | 19559           | 32625          | 3.19              | 5.0E-88                              | H10832.1              | EST HUMAN               | Homo sapiens chromosome 21 segment HS21C034   |
| 7830             | 20525           | 33650          | 1.8               | 5.0E-88                              | AI163294.2            | NT                      | 602154058F1 NIH_MSC_83 Homo sapiens cDNA clone IMAGE:4285775 5  |
| 9211             | 21890           | 35057          | 0.45              | 5.0E-88                              | BRL80206.1            | EST HUMAN               | PM1-TN0022-050900-004-f10 TN00228 Homo sapiens cDNA   |
| 1306             | 14055           | 26728          | 1.42              | 4.0E-88                              | BRL91229.1            | EST HUMAN               | PM1-TN0022-050900-004-f10 TN00228 Homo sapiens cDNA   |
| 1306             | 14055           | 26730          | 1.42              | 4.0E-88                              | BRL91229.1            | EST HUMAN               | Homo sapiens transforming growth factor, beta-induced, 88kD (TGFB1), mRNA   |
| 7143             | 18830           | 32889          | 1.43              | 4.0E-88                              | 11416585              | NT                      | Homo sapiens cell division cycle 10 (homologous to CDC10 of S. cerevisiae) (CDC10) mRNA   |
| 10827            | 23509           | 36749          | 1.8               | 4.0E-88                              | 4502684               | NT                      | Homo sapiens KIAA0152 gene product (KIAA0152), mRNA   |
| 11471            | 24072           | 37380          | 1.89              | 4.0E-88                              | 7881947               | NT                      | Homo sapiens KIAA0152 gene product (KIAA0152), mRNA   |
| 11471            | 24072           | 37381          | 1.89              | 4.0E-88                              | 7881947               | NT                      | Homo sapiens hypothetical protein FLJ21634 (FLJ21634), mRNA   |
| 715              | 13489           | 26140          | 1.85              | 3.0E-88                              | 11545800              | NT                      | Homo sapiens zinc finger protein 259 (ZNF259) mRNA  |
| 1805             | 14545           |                | 1.98              | 3.0E-88                              | 4508020               | NT                      | Homo sapiens liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:285823 3  |
| 2948             | 15714           | 28367          | 4.11              | 3.0E-88                              | N68951.1              | EST HUMAN               | Z448f12_s1 Scores fetal liver spleen 1NFLS Homo sapiens cDNA  |
| 4216             | 16957           | 28579          | 1.24              | 3.0E-88                              | 4501912               | NT                      | Homo sapiens a disintegrin and metalloprotease domain 23 (ADAM23) mRNA  |
| 4216             | 16957           | 28580          | 1.24              | 3.0E-88                              | 4501912               | NT                      | Homo sapiens a disintegrin and metalloprotease domain 23 (ADAM23) mRNA  |
| 4444             | 17180           |                | 4.06              | 3.0E-88                              | 11428390              | NT                      | Homo sapiens hypothetical protein (VCP), mRNA   |
| 5216             | 18024           | 30648          | 2.85              | 3.0E-88                              | 11429867              | NT                      | Homo sapiens vesolin-containing protein (VCP), mRNA   |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|--|
| 6498             | 18298           | 31194          | 4.13              | 3.0E-88                    | 896888888             | NT                      | Homo sapiens polycythemia rubra vera 1; cell surface receptor (PRV1), mRNA   |
| 56118            | 18414           | 31327          | 3.58              | 3.0E-88                    | 11420697              | NT                      | Homo sapiens v-rel simian leukemia viral oncogene homolog A (ras related) (RALA), mRNA   |
| 6069             | 18848           | 31812          | 0.61              | 3.0E-88                    | 11417370              | NT                      | Homo sapiens Interleukin 13 (IL-13), mRNA  |
| 6319             | 25088           | 32078          | 1.18              | 3.0E-88                    | 11419210              | NT                      | Homo sapiens activator of S phase kinase (ASK), mRNA   |
| 6319             | 25088           | 32077          | 1.18              | 3.0E-88                    | 11419210              | NT                      | Homo sapiens activator of S phase kinase (ASK), mRNA   |
| 6965             | 18447           | 32485          | 14.69             | 3.0E-88                    | AF279265.1            | NT                      | Homo sapiens putative anion transporter 1 mRNA, complete cds   |
| 7440             | 20117           | 33208          | 6.15              | 3.0E-88                    | 11436400              | NT                      | Homo sapiens refined lastone-binding protein 2 (RBBP2), mRNA   |
| 7821             | 20516           | 33842          | 0.68              | 3.0E-88                    | 11421728              | NT                      | Homo sapiens growth differentiation factor 6 (cartilage-derived morphogenic protein-1) (GDF6), mRNA  |
| 8098             | 20780           | 33921          | 1.35              | 3.0E-88                    | AF034374.1            | NT                      | Homo sapiens myobutin cofactor biosynthesis protein A and myobutin cofactor biosynthesis protein C mRNA, complete cds  |
| 8334             | 20405           | 33521          | 1.99              | 3.0E-88                    | 11526262              | NT                      | Homo sapiens v-ets avian erythroblastosis virus E26 oncogene related (ERG), mRNA   |
| 8828             | 22479           | 35680          | 0.58              | 3.0E-88                    | AB015228.1            | NT                      | Homo sapiens mRNA for RALDH2-T, complete cds   |
| 8828             | 22479           | 35681          | 0.58              | 3.0E-88                    | AB015228.1            | NT                      | Homo sapiens mRNA for RALDH2-T, complete cds   |
| 8857             | 22507           | 35705          | 1.28              | 3.0E-88                    | 11439085              | NT                      | Homo sapiens acyl-Coenzyme A dehydrogenase family member 8 (ACAD8), mRNA   |
| 12139            | 24828           |                | 6.97              | 3.0E-88                    | 11417974              | NT                      | Homo sapiens transcobalamin II; macrocytic anemia (TCN2), mRNA   |
| 1013             | 13773           | 28432          | 3.32              | 2.0E-88                    | 7305198               | NT                      | Homo sapiens Calretinin, presenilin-binding protein, EF hand transcription factor (CSEN), mRNA   |
| 1620             | 14367           | 27058          | 1.38              | 2.0E-88                    | AF248218.1            | NT                      | Homo sapiens SNARE protein kinase SNAK mRNA, complete cds  |
| 1744             | 14486           | 27185          | 3.13              | 2.0E-88                    | AF248219.1            | NT                      | Homo sapiens SNARE protein kinase SNAK mRNA, complete cds  |
| 3458             | 16214           | 28867          | 1.52              | 2.0E-88                    | AF248219.1            | NT                      | Homo sapiens SNARE protein kinase SNAK mRNA, complete cds  |
| 4391             | 17128           | 28780          | 2.13              | 2.0E-88                    | 5031688               | NT                      | Homo sapiens dynein, axonemal, light polypeptide 4 (DNAL4), mRNA   |
| 5821             | 18810           | 31539          | 5.63              | 1.0E-88                    | AW139585.1            | EST_HUMAN               | UH-B1-aae-d-04-o-UJ..s1 NCI CGAP_Su83 Homo sapiens cDNA clone IMAGE:2718760 3'   |
| 5821             | 18610           | 31540          | 5.63              | 1.0E-88                    | AW139585.1            | EST_HUMAN               | UH-B1-aae-d-04-o-UJ..s1 NCI CGAP_Su83 Homo sapiens cDNA clone IMAGE:2718760 3'   |
| 6548             | 18313           | 32317          | 23.61             | 1.0E-88                    | AB007877.1            | NT                      | Homo sapiens KIAA0417 mRNA, complete cds   |
| 6548             | 18313           | 32318          | 23.81             | 1.0E-88                    | AB007877.1            | NT                      | Homo sapiens KIAA0417 mRNA, complete cds   |
| 7022             | 19714           | 32771          | 1.4               | 1.0E-88                    | AB069034.1            | EST_HUMAN               | w70er12-x1 NCI CGAP_GCS Homo sapiens cDNA clone IMAGE:2478606 3'   |
| 7084             | 19774           | 32839          | 4.42              | 1.0E-88                    | AA488681.1            | EST_HUMAN               | aa54ar1.s1 NCI CGAP_GCB1 Homo sapiens cDNA clone IMAGE:824732 3' similar to WP-B0272.2 CE00851;  |
| 9141             | 21872           | 35037          | 0.6               | 1.0E-88                    | AA190368.1            | EST_HUMAN               | 2p87c02..71 Stratagene Hela cell s3 837216 Homo sapiens cDNA clone IMAGE:827170 5' similar to SW:POL1_HUMAN P10268 RETROVIRUS-RELATED POL POLYPROTEIN;               |
| 9478             | 22131           | 35311          | 2.97              | 1.0E-88                    | AD0433142             | EST_HUMAN               | DKFZp434N0323..J_434 (synonym: hts83) Homo sapiens cDNA clone DKFZp434N0323 5' os91903.s1 NCI CGAP_GC3 Homo sapiens cDNA clone IMAGE:1612768 3' similar to gb:M16342 |
| 11422            | 23189           | 36420          | 2.86              | 1.0E-88                    | AA891479.1            | EST_HUMAN               | HETEROGENEOUS NUCLEAR RIBONUCLEOPROTEINS C1/C2 (HUMAN);  |
| 12359            | 24780           |                | 3                 | 1.0E-88                    | AI163246.2            | NT                      | Homo sapiens chromosome 21 segment HS21C046  |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 2739             | 15445           | 28184          | 1.33              | 8.0E-89                              | BE311557.1            | EST_HUMAN               | 601142409F1 NIH_MGC_14 Homo sapiens cDNA clone MAGE-3506188 5'   |
| 6833             | 18495           | 32519          | 1.2               | 8.0E-89                              | 11421514              | NT                      | Homo sapiens similar to sema domain, immunoglobulin domain (tg), short basic domain, secreted, (semaphorin) 3A (H. sapiens) (LOC36232), mRNA |
| 424              | 13210           | 25856          | 1.72              | 7.0E-89                              | 7657213               | NT                      | Homo sapiens harmonically upregulated neu tumor-associated kinase (HUNK), mRNA   |
| 424              | 13210           | 25857          | 1.72              | 7.0E-89                              | 7657213               | NT                      | Homo sapiens harmonically upregulated neu tumor-associated kinase (HUNK), mRNA   |
| 4828             | 17559           | 30181          | 2.86              | 7.0E-89                              | 4557390               | NT                      | Homo sapiens complement component 3, beta polypeptide (C8B) mRNA   |
| 4878             | 17605           | 30223          | 3.35              | 7.0E-89                              | AL045748.1            | EST_HUMAN               | DKFZp744E246_1144 (synonym: hess) Homo sapiens cDNA clone DKFZp744E246 5'  |
| 5345             | 18148           | 30627          | 1.34              | 7.0E-89                              | X89632.1              | NT                      | H.sapiens CLN3 gene, complete cds  |
| 5345             | 18148           | 30828          | 1.34              | 7.0E-89                              | X89632.1              | NT                      | H.sapiens CLN3 gene, complete cds  |
| 6250             | 18024           | 31897          | 0.57              | 7.0E-89                              | 7548008               | NT                      | Homo sapiens plasmin 3 (1 isoform) (PLS3), mRNA  |
| 6250             | 18024           | 31898          | 0.57              | 7.0E-89                              | 7548008               | NT                      | Homo sapiens plasmin 3 (1 isoform) (PLS3), mRNA  |
| 7393             | 20076           | 33156          | 2.06              | 7.0E-89                              | 11420754              | NT                      | Homo sapiens actin related protein 2/3 complex, subunit 1A (41 kD) (ARPC1A), mRNA  |
| 7779             | 20474           | 33568          | 0.67              | 7.0E-89                              | 11417118              | NT                      | Homo sapiens KIAA0433 protein (KIAA0433), mRNA   |
| 7779             | 20474           | 33569          | 0.57              | 7.0E-89                              | 11417118              | NT                      | Homo sapiens KIAA0433 protein (KIAA0433), mRNA   |
| 9584             | 22237           | 35421          | 0.6               | 7.0E-89                              | AB011133.1            | NT                      | Homo sapiens mRNA for KIAA0561 protein, partial cds  |
| 10429            | 22075           | 38296          | 1.11              | 7.0E-89                              | X62048.1              | NT                      | H.sapiens Wef1 hu gene   |
| 10429            | 23075           | 38297          | 1.11              | 7.0E-89                              | X62048.1              | NT                      | H.sapiens Wef1 hu gene   |
| 10445            | 23091           | 38320          | 2.33              | 7.0E-89                              | AB020630.1            | NT                      | Homo sapiens mRNA for KIAA0823 protein, partial cds  |
| 10445            | 23091           | 38321          | 2.33              | 7.0E-89                              | AB020630.1            | NT                      | Homo sapiens mRNA for KIAA0823 protein, partial cds  |
| 11203            | 23987           | 37154          | 1.45              | 7.0E-89                              | M59783.1              | NT                      | Human sialose reductase (AR) gene, segment 2   |
| 12774            | 25028           |                | 1.7               | 7.0E-89                              | UB7827.1              | NT                      | Human sconitate hydrolase (ACO2) gene, exon 2  |
| 1002             | 13762           | 28423          | 0.73              | 8.0E-89                              | 5803114               | NT                      | Homo sapiens inner membrane protein, mitochondrial (mitofillin) (IMMT), mRNA   |
| 2210             | 14935           | 27676          | 1.27              | 8.0E-89                              | 4506124               | NT                      | Homo sapiens serine/threonine-protein kinase PRP4 homolog (PRP4), mRNA   |
| 2434             | 15155           | 27888          | 1.08              | 8.0E-89                              | 4507788               | NT                      | Homo sapiens ubiquitin-conjugating enzyme E2L 3 (UBE2L3), mRNA   |
| 2434             | 15155           | 27889          | 1.08              | 8.0E-89                              | 4507788               | NT                      | Homo sapiens ubiquitin-conjugating enzyme E2L 3 (UBE2L3), mRNA   |
| 3515             | 16221           | 28925          | 0.88              | 8.0E-89                              | 7861817               | NT                      | Homo sapiens HSPC159 protein (HSPC159), mRNA   |
| 4583             | 17328           | 28954          | 3.02              | 8.0E-89                              | AB007866.2            | NT                      | Homo sapiens mRNA for KIAA0406 protein, partial cds  |
| 4583             | 17328           | 29955          | 3.02              | 8.0E-89                              | AB007866.2            | NT                      | Homo sapiens mRNA for KIAA0406 protein, partial cds  |
| 5100             | 17819           | 30436          | 0.81              | 8.0E-89                              | 6806918               | NT                      | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA  |
| 5100             | 17819           | 30437          | 0.81              | 8.0E-89                              | 6806918               | NT                      | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA  |
| 5016             | 17737           | 30346          | 2.74              | 5.0E-89                              | BE244323.1            | EST_HUMAN               | TCBAZP0383 Pediatric pre-B cell acute lymphoblastic leukemia Baytar-HGSC project=TCBA Homo sapiens   |
| 5016             | 17737           | 30346          | 2.74              | 5.0E-89                              | BE244323.1            | EST_HUMAN               | TCBAZP0383 Pediatric pre-B cell acute lymphoblastic leukemia Baytar-HGSC project=TCBA Homo sapiens   |
|                  |                 |                |                   |                                      |                       |                         | cDNA clone TCBAZP0383  |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe Seq ID No: | Exon Seq ID No: | ORF Seq ID No: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|---|
| 7487             | 20169           | 32521          | 1.95              | 4.0E-89                              | BET62749.1            | EST_HUMAN  | QV74NT0022-0806300-219-903 NT0022 Homo sapiens cDNA   |
| 110883           | 23758           | 37034          | 1.58              | 4.0E-89                              | AI798872.1            | EST_HUMAN  | WE91C03.x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2348452 3'                               |
| 2879             | 15646           | 28228          | 1.51              | 3.0E-89                              | AW076181.1            | EST_HUMAN  | EST388220 IMAGE resequences, MAGN Homo sapiens cDNA   |
| 7040             | 19731           | 32780          | 1.26              | 3.0E-89                              | AI217359.1            | EST_HUMAN  | QH17006.x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:1844916 3'                               |
| 10502            | 23148           | 36374          | 0.49              | 3.0E-89                              | AB002297.1            | NT   | Human mRNA for KIAA0289 gene, partial cds   |
|                  |                 |                |                   |                                      |                       |  | yw88e11.11 Scores_placenta_8toweeks_21nbHP8toW Homo sapiens cDNA clone IMAGE:258148 5'                |
| 10702            | 23393           | 366390         | 2.34              | 3.0E-89                              | N57357.1              | EST_HUMAN  | similar to SW:PH4K_HUMAN P42358 PHOSPHATIDYLINOSITOL-4-KINASE ALPHA;                                  |
| 123              | 13184           | 25832          | 0.87              | 2.0E-89                              | 7706670               | NT   | Human sapiens PXR2b protein (PXR2b), mRNA   |
| 123              | 13184           | 25833          | 0.87              | 2.0E-89                              | 7706670               | NT   | Human sapiens PXR2b protein (PXR2b), mRNA   |
| 399              | 13184           | 25832          | 1.55              | 2.0E-89                              | 7706670               | NT   | Human sapiens PXR2b protein (PXR2b), mRNA   |
| 399              | 13184           | 25833          | 1.55              | 2.0E-89                              | 7706670               | NT   | Human sapiens PXR2b protein (PXR2b), mRNA   |
| 517              | 13301           | 25833          | 3.17              | 2.0E-89                              | AB037763.1            | NT   | Human sapiens mRNA for KIAA1342 protein, partial cds  |
|                  |                 |                |                   |                                      |                       |  | eg98e08.x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:1842022 3' similar to gb:J04131          |
| 2883             | 16650           | 28293          | 1.53              | 2.0E-89                              | A1222085.1            | EST_HUMAN  | GAMMA-GLUTAMYL TRANSPEPTIDASE 1 PRECURSOR (HUMAN), contains Alt repetitive element                    |
| 3540             | 162898          | 28946          | 1.01              | 2.0E-89                              | AA759149.1            | EST_HUMAN  | AA759149.1 Scores_nestis_NHT Homo sapiens cDNA clone 1320388 3'                                       |
| 3540             | 16289           | 28947          | 1.01              | 2.0E-89                              | AA759149.1            | EST_HUMAN  | AA759149.1 Scores_nestis_NHT Homo sapiens cDNA clone 1320388 3'                                       |
| 4126             | 16887           | 28494          | 1.26              | 2.0E-89                              | AF089897.1            | NT   | Human sapiens topoisomerase-related function protein (TRF4-2) mRNA, partial cds                       |
| 4133             | 16875           | 28504          | 5.16              | 2.0E-89                              | X58742.1              | NT   | H.sapiens HCK gene for tyrosine kinase (PTK), exons 10-11   |
| 4133             | 16875           | 28505          | 5.16              | 2.0E-89                              | X58742.1              | NT   | H.sapiens HCK gene for tyrosine kinase (PTK), exons 10-11   |
| 4915             | 17054           | 28879          | 0.76              | 2.0E-89                              | AI163203.2            | NT   | Human sapiens chromosome 21 segment HS21C003  |
| 4463             | 17189           | 29826          | 1.1               | 2.0E-89                              | AD07378.1             | NT   | Human sapiens GGT gene, exon 5  |
| 52289            | 180368          | 0.68           | 2.0E-89           | BE541744.1                           | EST_HUMAN             | 601065986F-NIH_WGC_10 Homo sapiens cDNA clone IMAGE:3422423 5' |   |
| 63983            | 18193           | 308986         | 2.8               | 2.0E-89                              | AB007648.1            | NT   | Human sapiens gene for LECT12, complete cds   |
| 5702             | 18498           | 31418          | 1.81              | 2.0E-89                              | U03985.1              | NT   | Human N-ethylmaleimide-sensitive factor mRNA, partial cds   |
| 6116             | 18894           | 31981          | 0.63              | 2.0E-89                              | AI163285.2            | NT   | Human sapiens chromosome 21 segment HS21C085  |
| 7587             | 20237           | 33341          | 5.33              | 2.0E-89                              | U81004.1              | NT   | Human GT24 (GT24) mRNA, partial cds   |
| 7835             | 20530           | 33657          | 3.07              | 2.0E-89                              | 11428801              | NT   | Human sapiens solute carrier family 24 (sodium/potassium/calcium exchanger), member 2 (SLC24A2), mRNA |
| 8318             | 21009           | 34146          | 1.02              | 2.0E-89                              | A245503.1             | NT   | Human sapiens partial mRNA for PEZ5 related protein   |
| 9152             | 21883           | 35052          | 0.6               | 2.0E-89                              | AB037754.1            | NT   | Human sapiens mRNA for KIAA1533 protein, partial cds  |
| 9710             | 22361           | 35557          | 0.68              | 2.0E-89                              | AF170814.1            | NT   | Human sapiens CaBP5 (CaBP5) gene, exon 5  |
| 9710             | 22361           | 35558          | 0.68              | 2.0E-89                              | AF170814.1            | NT   | Human sapiens CaBP5 (CaBP5) gene, exon 5  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLASTE Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|-------------------------------------|-----------------------|--|--|
| 11346 24038      | 37339           | 2.83           | 2.0E-89           | 11434411                            | NT                    |  | Human sapiens integrin, alpha 3 (antigen CD49C, alpha 3 subunit of VLA-3 receptor) (ITGAS), mRNA               |
| 11448 23216      | 38447           | 2.3            | 2.0E-89           | 6728867                             | NT                    |  | Human sapiens heat domain and RLD 2 (HERC2), mRNA  |
| 11562 24161      | 37472           | 5.03           | 2.0E-89           | 11433873                            | NT                    |  | Human sapiens cell adhesion molecule with homology to L1CAM (close homologue of L1) (CHL1), mRNA               |
| 11718 24312      | 37536           | 2.11           | 2.0E-89           | U10892.1                            | NT                    |  | Human MAGE-7 antigen (MAGE7) pseudogene, complete cds  |
| 11570 24169      | 37483           | 5.97           | 1.0E-89           | BF198052.1                          | EST_HUMAN             |  | hr81d89.x1 NCI CGAP Khd11 Homo sapiens cDNA clone IMAGE:3134897 3' similar to TR:054778 O54778                 |
| 11570 24169      | 37484           | 5.97           | 1.0E-89           | BF198052.1                          | EST_HUMAN             |  | SOLUTE CARRIER FAMILY 22-LIKE 2 PROTEIN ;  |
| 8128 20820       | 33956           | 1.67           | 9.0E-80           | AL163248.2                          | NT                    |  | Hom sapiens chromosome 21 segment HS21C046   |
| 8128 20820       | 33957           | 1.57           | 9.0E-80           | AL163248.2                          | NT                    |  | Hom sapiens chromosome 21 segment HS21C046   |
| 1041 138901      | 26459           | 2.23           | 8.0E-80           | AL163248.2                          | NT                    |  | Hom sapiens chromosome 21 segment HS21C046   |
| 1042 138901      | 26459           | 2.9            | 8.0E-80           | AL163248.2                          | NT                    |  | Hom sapiens chromosome 21 segment HS21C046   |
| 1307 155665      | 26731           |                | 8.0E-80           | BE070581.1                          | EST_HUMAN             |  | 7638f08.x1 NCI CGAP Lu24 Homo sapiens cDNA clone IMAGE:3284583 3'  |
| 1307 155665      | 26732           |                | 8.0E-80           | BE070581.1                          | EST_HUMAN             |  | 7638f08.x1 NCI CGAP Lu24 Homo sapiens cDNA clone IMAGE:3284583 3'  |
| 8458 21150       | 342583          | 0.55           | 8.0E-80           | BE177830.1                          | EST_HUMAN             |  | RC1-H0598-120400-022-h08 HT0598 Homo sapiens cDNA  |
| 10589 23283      | 36531           | 1.52           | 8.0E-80           | AI222095.1                          | EST_HUMAN             |  | 0898c08.x1 Scares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:1843022 3' similar to gb:J04131 1                 |
| 10589 23283      | 36532           | 1.52           | 8.0E-80           | AI222095.1                          | EST_HUMAN             |  | 0898c08.x1 Scares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:1843022 3' similar to gb:J04131 1                 |
| 10589 23283      | 36532           | 1.32           | 8.0E-80           | AA705222.1                          | EST_HUMAN             |  | GAMMA-GLUTAMYL TRANSPEPTIDASE 1 PRECURSOR (HUMAN); contains Ali repetitive element                             |
| 10963 23639      | 36889           | 1.32           | 8.0E-80           | AA705222.1                          | EST_HUMAN             |  | 2482q10.s1 Scares_fetal_liver spleen_1NFLS S1 Homo sapiens cDNA clone IMAGE:461442 3'                          |
| 10963 23639      | 36890           | 1.32           | 8.0E-80           | AA705222.1                          | EST_HUMAN             |  | 2482q10.s1 Scares_fetal_liver spleen_1NFLS S1 Homo sapiens cDNA clone IMAGE:461442 3'                          |
|                  |                 |                |                   |                                     |                       |  | Hom sapiens calcium channel alpha1E subunit (CACNA1E) gene, exons 7-49, and partial cds, alternatively spliced |
| 816 13587        |                 |                | 4.12              | 7.0E-80                             | AF2223391.1           | NT   |  |
| 8323 21016       |                 |                | 2.08              | 7.0E-80                             | AA782877.1            | EST_HUMAN  | af63d08.s1 Scares_testis NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3855824 3'                                   |
| 8865 21656       | 34701           |                | 1.62              | 7.0E-80                             | BE962525.2            | EST_HUMAN  | 601655837R1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3855824 3'  |
| 8865 21556       | 34702           |                | 1.62              | 7.0E-80                             | BE962525.2            | EST_HUMAN  | 601655837R1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3855824 3'  |
| 10036 22684      | 35901           | 1.9            | 7.0E-80           | H68849.1                            | EST_HUMAN             | yf86d4.s1 Scares_fetal_liver spleen_1NFLS Homo sapiens cDNA clone IMAGE:212190 3' similar to SP:C1TC_HUMAN P11588 C-1-TETRAHYDROFOLATE SYNTHASE, CYTOPLASMIC ; |  |
| 10036 22684      | 35902           | 1.9            | 7.0E-80           | H68849.1                            | EST_HUMAN             | SP:C1TC_HUMAN P11588 C-1-TETRAHYDROFOLATE SYNTHASE, CYTOPLASMIC ;  |  |

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 Table 4  
 Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 10352            | 22889           | 36216          | 1.17              | 7.0E-90                              | BF2260389.1           | EST_HUMAN               | 602071208FT NCI_CGAP_Bm84 Homo sapiens cDNA clone IMAGE:4214257 5   |
| 4201             | 16942           | 285688         | 9.12              | 6.0E-90                              | 8922398               | NT                      | Homo sapiens hypothetical protein FLJ10388 (FLJ10388), mRNA   |
| 4201             | 16942           | 285689         | 9.12              | 6.0E-90                              | 8922398               | NT                      | Homo sapiens hypothetical protein FLJ10388 (FLJ10388), mRNA   |
| 5894             | 18678           | 316225         | 3.27              | 6.0E-90                              | U77700.1              | NT                      | Homo sapiens HsGCN1 mRNA, partial cds   |
| 5894             | 18678           | 316226         | 3.27              | 6.0E-90                              | U77700.1              | NT                      | Homo sapiens HsGCN1 mRNA, partial cds   |
| 8225             | 20919           | 34056          | 2.75              | 6.0E-90                              | 4504734               | NT                      | Homo sapiens Inositol 1,4,5-triphosphate receptor, type 3 (ITPR3) mRNA  |
| 8225             | 20919           | 34057          | 2.75              | 6.0E-90                              | 4504734               | NT                      | Homo sapiens Inositol 1,4,5-triphosphate receptor, type 3 (ITPR3) mRNA  |
| 151              | 128668          |                | 19.84             | 5.0E-90                              | AB236344.1            | NT                      | Homo sapiens TCOL gene, exon 1-10b  |
| 1170             | 13924           | 28588          | 3.08              | 5.0E-90                              | U80226.1              | NT                      | Human gamma-aminobutyric acid transaminase mRNA, partial cds  |
| 1813             | 14553           | 27287          | 1.47              | 5.0E-90                              | A1222985.1            | EST_HUMAN               | op36038.x1 Scareas_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:1843022 3' similar to gb:J04131 GAMMA-GLUTAMYL TRANSPEPTIDASE 1 PRECURSOR (HUMAN) contains Alu repetitive element |
| 1813             | 14553           | 27288          | 1.47              | 5.0E-90                              | A1222985.1            | EST_HUMAN               | op36038.x1 Scareas_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:1843022 3' similar to gb:J04131 GAMMA-GLUTAMYL TRANSPEPTIDASE 1 PRECURSOR (HUMAN) contains Alu repetitive element |
| 2560             | 16274           | 28011          | 2.78              | 5.0E-90                              | AF114487.1            | NT                      | Homo sapiens Intersectin long isoform (ITSN) mRNA, complete cds   |
| 4503             | 17238           | 28871          | 2.05              | 5.0E-90                              | 4508354               | NT                      | Homo sapiens pregnancy-zone protein (PZP) mRNA  |
| 4822             | 17357           | 29892          | 0.98              | 5.0E-90                              | AL135549.1            | EST_HUMAN               | DKFZp762P1816_J1_762 (synonym: Irmel2) Homo sapiens cDNA clone DKFZp762P1816 5  |
| 5604             | 18302           | 31203          | 2.94              | 5.0E-90                              | Z18411.1              | NT                      | H.sapiens mRNA encoding phospholipase C   |
| 5606             | 18402           | 31316          | 1.31              | 5.0E-90                              | AB015617.1            | NT                      | Homo sapiens ELKS mRNA, complete cds  |
| 5679             | 18302           | 31203          | 2.58              | 5.0E-90                              | Z18411.1              | NT                      | H.sapiens mRNA encoding phospholipase C   |
| 6631             | 18393           | 32407          | 0.74              | 5.0E-90                              | 8910365               | NT                      | Homo sapiens Carbonyl hydrolase-related protein 10 (LOC56834), mRNA   |
| 6631             | 18393           | 32408          | 0.74              | 5.0E-90                              | 8910365               | NT                      | Homo sapiens Carbonyl hydrolase-related protein 10 (LOC56834), mRNA   |
| 7114             | 18802           | 32868          | 2.04              | 5.0E-90                              | AF113708.1            | NT                      | Homo sapiens angiopoietin 4 (ANG4) mRNA, partial cds  |
| 7114             | 18802           | 32867          | 2.04              | 5.0E-90                              | AF113708.1            | NT                      | Homo sapiens angiopoietin 4 (ANG4) mRNA, partial cds  |
| 7463             | 20136           | 33228          | 9.01              | 5.0E-90                              | 4557258               | NT                      | Homo sapiens adenylyl cyclase 8 (ADCY8) mRNA  |
| 7790             | 20485           | 33609          | 0.44              | 5.0E-90                              | 4506758               | NT                      | Homo sapiens ryamidine receptor 3 (RYR3) mRNA   |
| 8192             | 20886           | 34025          | 5.08              | 5.0E-90                              | 11345483              | NT                      | Homo sapiens hypothetical protein FLJ13222 (FLJ13222), mRNA   |
| 8096             | 21784           | 34660          | 0.53              | 5.0E-90                              | 4828670               | NT                      | Homo sapiens cathefelin 18 (CDH18) mRNA   |
| 9579             | 22232           | 35416          | 1.06              | 5.0E-90                              | 11419129              | NT                      | Homo sapiens similar to ectonucleotide pyrophosphatase/phosphodiesterase 3 (H. sapiens) (LOC63214), mRNA  |
| 10181            | 22829           | 36044          | 0.53              | 5.0E-90                              | AF123308.1            | NT                      | Homo sapiens calcium-binding transporter mRNA, partial cds  |
| 10312            | 22959           | 36176          | 0.5               | 5.0E-90                              | 11417118              | NT                      | Homo sapiens KIAA0453 protein (KIAA0453), mRNA  |
| 10312            | 22959           | 36176          | 0.5               | 5.0E-90                              | 11417118              | NT                      | Homo sapiens KIAA0453 protein (KIAA0453), mRNA  |

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Table 4  
Single Exon Probes Expresser

| Single Exon Proteins Last Processed in Entrez |                 |                |                   |                                      |                       |                         | Top Hit Descriptor   |  |
|---|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|--|
| Probe SEQ ID NO:                              | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |  |
|   |                 |                |                   |                                      |                       |                         |  |  |
| 10344   | 22891           | 36208          | 9.16              | 5.0E-90                              | 11433721              | NT                      | Homo sapiens ATPase, <b>amino</b> phospholipid transporter-like, Class I, type 8A, member 2 (ATP8A2), mRNA |  |
| 10402   | 28048           | 362384         | 0.64              | 5.0E-90                              | 7682051               | NT                      | Homo sapiens KIAA0317 gene product (KIAA0317), mRNA  |  |
| 10402   | 23048           | 362385         | 0.54              | 5.0E-90                              | 7682051               | NT                      | Homo sapiens KIAA0317 gene product (KIAA0317), mRNA  |  |
| 11731   | 24324           | 37648          | 2.41              | 5.0E-90                              | 7682047               | NT                      | Homo sapiens KIAA0305 gene product (KIAA0305), mRNA  |  |
| 12691   | 24848           | 2098           | 5.0E-90           | AB011399.1                           | NT                    |                         | Homo sapiens gene for AF-6, complete cds   |  |
| 12841   | 24838           | 4.43           | 5.0E-90           | AI523388.1                           | EST_HUMAN             |                         | at7805.51 Barsteed, Scott HPLRB6 Homo sapiens cDNA clone IMAGE-2128761 3                                   |  |
| 285   | 13101           | 25742          | 1.93              | 4.0E-90                              | AF231920.1            | NT                      | Homo sapiens chromosome 21 unknown mRNA  |  |
| 285   | 13101           | 25743          | 1.93              | 4.0E-90                              | AF231920.1            | NT                      | Homo sapiens chromosome 21 unknown mRNA  |  |
| 1084  | 13822           | 26482          | 3.23              | 4.0E-90                              | 4505316               | NT                      | Homo sapiens myosin phosphatase, target subunit 1 (MYP11), mRNA  |  |
| 1884  | 14428           | 27125          | 8.09              | 4.0E-90                              | X89033.1              | NT                      | H.sapiens gene encoding discoidin receptor tyrosine kinase, exon 18  |  |
| 2392  | 15758           | 28405          | 0.88              | 4.0E-90                              | AF007544.1            | NT                      | Homo sapiens prostate-specific membrane antigen (PSM) gene, complete cds                                   |  |
| 30223   | 15769           | 28486          | 1.07              | 4.0E-90                              | 6806918               | NT                      | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA  |  |
| 30223   | 15769           | 28487          | 1.07              | 4.0E-90                              | 6806918               | NT                      | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA  |  |
| 4608  | 17343           | 28975          | 7.65              | 4.0E-90                              | D87675.4              | NT                      | Homo sapiens DNA for amyloid precursor protein, complete cds   |  |
| 4743  | 17476           | 30108          | 2.17              | 4.0E-90                              | AB033070.1            | NT                      | Homo sapiens mRNA for KIAA1244 protein, partial cds  |  |
| 4788  | 17500           | 30123          | 2.33              | 4.0E-90                              | MO5967.1              | NT                      | Homo sapiens cDNA clone IMAGE-3083839 3'   |  |
| 7751  | 20447           | 33570          | 1.98              | 3.0E-90                              | BF516168.1            | EST_HUMAN               | U+H-BW1-amy-b-04-0-J1..s1 NCI_CGAP_Sub7 Homo sapiens cDNA clone IMAGE-3083839 3'                           |  |
| 7751  | 20447           | 33571          | 1.08              | 3.0E-90                              | BF516168.1            | EST_HUMAN               | U+H-BW1-amy-b-04-0-J1..s1 NCI_CGAP_Sub7 Homo sapiens cDNA clone IMAGE-3083839 3'                           |  |
| 11630   | 24227           | 37551          | 17.81             | 3.0E-90                              | BE563833.1            | EST_HUMAN               | 601335244F1 NIH_MGC_39 Homo sapiens cDNA clone IMAGE-3453834 5'  |  |
| 208   | 13020           | 25662          | 4.71              | 2.0E-90                              | BE537013.1            | EST_HUMAN               | 601067378F1 NIH_MGC_10 Homo sapiens cDNA clone IMAGE-3453834 5'  |  |
| 1150  | 13905           | 28567          | 2.67              | 2.0E-90                              | 5031748               | NT                      | Homo sapiens high-mobility group (nucleosome chromosomal) protein 17 (HMG17), mRNA                         |  |
| 1150  | 13905           | 28568          | 2.67              | 2.0E-90                              | 5031748               | NT                      | q54cd2x1 Soares,placenta 86weeks 2NbHP8dEW Homo sapiens cDNA clone IMAGE-1713410 3'                        |  |
| 3823  | 16577           | 29209          | 1.7               | 2.0E-90                              | AI138213.1            | EST_HUMAN               | similar to SW-OLF3_MOUSE_P2275 OLFACTORY RECEPTOR OR3.; Homo sapiens mRNA for KIAO288 gene, partial cds    |  |
| 4640  | 17374           | 30008          | 1.05              | 2.0E-90                              | AB506827.1            | NT                      | Homo sapiens GRB2-related adapter protein (GRAP) mRNA  |  |
| 4853  | 17583           | 30208          | 7.31              | 2.0E-90                              | 6728855               | NT                      | Homologous to TR:075208 075208   |  |
| 5695  | 18499           | 31410          | 4.86              | 2.0E-90                              | AW672686.1            | EST_HUMAN               | HYPOTHETICAL_35.5KD PROTEIN ;  |  |
| 9689  | 22341           | 35534          | 4.78              | 2.0E-90                              | 11427320              | NT                      | Homo sapiens similar to laminin receptor 1 (67kD, ribosomal protein SA) (H. sapiens) (LOC63484), mRNA      |  |
| 9689  | 22341           | 35535          | 4.78              | 2.0E-90                              | 11427320              | NT                      | Homo sapiens similar to laminin receptor 1 (67kD, ribosomal protein SA) (H. sapiens) (LOC63484), mRNA      |  |
| 9860  | 22510           | 35706          | 1.37              | 2.0E-90                              | AU118855              | EST_HUMAN               | AU118855 HEMBA1 Homo sapiens cDNA clone HEMBA100-795 5'  |  |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO. | Exon SEQ ID NO. | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|--|
| 9860             | 22510           | 35707          | 1.37              | 2.0E-90                          | AU1168985.1           | EST_HUMAN               | AU1168985 HEMBA1 Homo sapiens cDNA clone HEMBA1004785 5  |
| 11447            | 23214           | 36446          | 2.8               | 2.0E-90                          | 11024711              | NT                      | Homo sapiens myosin, heavy polypeptide 4, skeletal muscle (MYH4), mRNA   |
| 270              | 13078           | 25720          | 4.55              | 1.0E-90                          | 4502168               | NT                      | Homo sapiens amyloid beta (A4) precursor protein (protease neck-1, Alzheimer disease) (APP), mRNA  |
| 365              | 16516           | 25805          | 1.36              | 1.0E-90                          | AF231920.1            | NT                      | Homo sapiens chromosome 21 unknown tRNA  |
| 368              | 16510           | 25805          | 1.43              | 1.0E-90                          | AF231920.1            | NT                      | Homo sapiens chromosome 21 unknown tRNA  |
| 619              | 13454           | 26098          | 2.32              | 1.0E-90                          | AJ237589.1            | NT                      | Homo sapiens mRNA for T-box transcription factor (TBX20 gene), partial   |
| 678              | 13454           | 26098          | 2.32              | 1.0E-90                          | AJ237589.1            | NT                      | Homo sapiens mRNA for T-box transcription factor (TBX20 gene), partial   |
| 713              | 19487           | 28137          | 13.22             | 1.0E-90                          | AF264750.1            | NT                      | Homo sapiens ALR-like protein mRNA, partial cds  |
| 713              | 13487           | 28138          | 13.22             | 1.0E-90                          | AF284750.1            | NT                      | Homo sapiens ALR-like protein mRNA, partial cds  |
| 1088             | 13846           |                | 2.47              | 1.0E-90                          | 4507828               | NT                      | Homo sapiens Kappa-like factor 7 (ubiquitous) (KLF7), mRNA   |
| 1223             | 14033           | 28703          | 5.56              | 1.0E-90                          | AF096154.1            | NT                      | Homo sapiens protein phosphatase 2A BR gamma subunit gene, exon 3  |
| 1223             | 14033           | 28704          | 5.56              | 1.0E-90                          | AF096154.1            | NT                      | Homo sapiens protein phosphatase 2A BR gamma subunit gene, exon 3  |
| 1662             | 14408           |                | 1.23              | 1.0E-90                          | BE378894.1            | EST_HUMAN               | 6011593563#2 NIH MGCC_53 Homo sapiens cDNA clone IMAGE-3511118 5   |
| 1895             | 14632           | 27342          | 3.33              | 1.0E-90                          | 11420514              | NT                      | Homo sapiens similar to SALL1 (sal (Drosophila)-like (LOC57167), mRNA  |
| 2858             | 15626           | 28271          | 6.46              | 1.0E-90                          | 6005720               | NT                      | Homo sapiens chromosome 8 open reading frame 2 (CSRF2), mRNA   |
| 4389             | 17126           | 28768          | 1.29              | 1.0E-90                          | AF167340.1            | NT                      | Homo sapiens soluble interleukin 1 receptor accessory protein (IL1RAP) gene, exon 8, alternative exons 9 and complete cds, alternatively spliced |
| 5589             | 18385           | 31295          | 2.58              | 1.0E-90                          | AB014539.1            | NT                      | Homo sapiens mRNA for KIAA0633 protein, partial cds  |
| 5746             | 18538           | 31460          | 0.88              | 1.0E-90                          | 11426910              | NT                      | Homo sapiens KIAA0623 gene product (KIAA0623), mRNA  |
| 6473             | 19240           | 32240          | 0.57              | 1.0E-90                          | 11419406              | NT                      | Homo sapiens cytochrome P450, 51 (lancaster 14-alpha-demethylase) (CYP51), mRNA  |
| 6973             | 19455           | 32475          | 0.88              | 1.0E-90                          | U91834.1              | NT                      | Human retina-derived POU-domain factor-1 mRNA, complete cds  |
| 7204             | 19889           | 32965          | 0.84              | 1.0E-90                          | 6006002               | NT                      | Homo sapiens glutamate receptor, ionotropic, N-methyl D-aspartate 2A (GRIN2A) mRNA   |
| 7571             | 20240           | 33345          | 2.77              | 1.0E-90                          | 11426738              | NT                      | Homo sapiens soluble carrier family 1 (high affinity aspartate/glutamate transporter), member 6 (SLC1A6), mRNA                                   |
| 8720             | 21412           | 34555          | 3.73              | 1.0E-90                          | 11422085              | NT                      | Homo sapiens brefetolin A-inhibited guanine nucleotide-exchange protein 2 (BIG2), mRNA   |
| 9183             | 21863           |                | 0.88              | 1.0E-90                          | AF163864.1            | NT                      | Homo sapiens SNCA isoform (SNCA) gene, complete cds, alternatively spliced   |
| 9215             | 21894           | 35082          | 1.53              | 1.0E-90                          | 11422108              | NT                      | Homo sapiens CCG-15 protein (LOC51008), mRNA   |
| 9215             | 21894           | 35083          | 1.53              | 1.0E-90                          | 11422108              | NT                      | Homo sapiens SNCA isoform (SNCA) gene, complete cds, alternatively spliced   |
| 10657            | 23253           | 36490          | 1.5               | 1.0E-90                          | R25688.1              | EST_HUMAN               | Y944d11.2 Scores infant brain cDNA clone IMAGE-35477 5   |
| 10987            | 23643           | 36898          | 1.76              | 1.0E-90                          | J04474.1              | NT                      | Human branched chain alpha-keto acid dehydrogenase mRNA, 3' end  |
| 12580            | 24604           | 31001          | 1.49              | 1.0E-90                          | AB002059.1            | NT                      | Homo sapiens DNA for Human P2X6, complete cds  |
| 12580            | 24604           | 31002          | 1.49              | 1.0E-90                          | AB002059.1            | NT                      | Homo sapiens DNA for Human P2X6, complete cds  |
| 4172             | 16912           | 28542          | 6                 | 8.0E-91                          | D12234.1              | EST_HUMAN               | HUM0005SS381 Liver HepG2 cell line. Homo sapiens cDNA clone s381 3'  |

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**Table 4**  
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| Probe SEQ ID NO. | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source                         | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|---|---|
| 1427             | 14174           | 268569         | 1.06              | 7.0E-91                              | AF053768.1            | NT  | Rattus norvegicus brain specific cortactin-binding protein CBP80 mRNA, partial cds  |
| 8205             | 20898           | 34036          | 1.8               | 7.0E-91                              | 11419234              | NT  | Homo sapiens makorin, ring finger protein, 1 (MKRN1), mRNA  |
| 10198            | 22846           | 36062          | 0.68              | 7.0E-91                              | AB004151.1            | EST_HUMAN                                       | CM-BT043-080269-076 BT043 Homo sapiens cDNA   |
| 3467             | 16223           | 28877          | 1.83              | 5.0E-91                              | AA702794.1            | EST_HUMAN                                       | z80604.s1 Scores fetal liver_spleen_1NFLS_S1 Homo sapiens cDNA clone IMAGE:4480153'   |
| 4480             | 17215           | 28840          | 11.73             | 5.0E-91                              | AU143539              | Y79AA1 Homo sapiens cDNA clone Y79AA11002087 5' | EST_HUMAN   |
| 4480             | 17215           | 28841          | 11.73             | 5.0E-91                              | AU143539              | Y79AA1 Homo sapiens cDNA clone Y79AA11002087 5' | EST_HUMAN   |
| 4757             | 17489           | 30116          | 0.97              | 5.0E-91                              | 7110634               | NT  | Homo sapiens chromosome 22 open reading frame 5 (C22ORF5), mRNA   |
| 4757             | 17489           | 30117          | 0.97              | 5.0E-91                              | 7110634               | NT  | Homo sapiens chromosome 22 open reading frame 5 (C22ORF5), mRNA   |
| 6519             | 18285           | 32289          | 1.25              | 5.0E-91                              | AJ878895.1            | EST_HUMAN                                       | eu4609.x1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2518121 3' similar to SWASPGLANE Q47888 N4-(BETA-N-Acetyl Glucosaminyl)-L-ASPARAGINASE PRECURSOR; |
| 8105             | 20789           | 33931          | 1.2               | 5.0E-91                              | BF314682.1            | EST_HUMAN                                       | 601901624F1 NIH_MGC_191 Homo sapiens cDNA clone IMAGE:4130833 6'  |
| 8858             | 21350           | 34495          | 1.52              | 5.0E-91                              | AV648878              | GLC1-Homo sapiens cDNA clone GLC87YF08 3'       | EST_HUMAN   |
| 8858             | 21350           | 34496          | 1.52              | 5.0E-91                              | AV648878              | GLC1-Homo sapiens cDNA clone GLC87YF08 3'       | EST_HUMAN   |
| 12812            | 24919           |                | 1.74              | 5.0E-91                              | AJ83568.1             | EST_HUMAN                                       | q07011.x1 Scores_fetal_lung_Nibhl_10W Homo sapiens cDNA clone IMAGE:1744365 3' similar to contains MIR_b2 MIR repetitive element;                                     |
| 3197             | 15960           | 28611          | 1.69              | 4.0E-91                              | AF158776.1            | NT  | Homo sapiens lysophosphatidic acid acyltransferase-data (LPAA1-data) mRNA, complete cds   |
| 3197             | 15960           | 28612          | 1.69              | 4.0E-91                              | AF158778.1            | NT  | Homo sapiens lysophosphatidic acid acyltransferase-data (LPAA1-data) mRNA, complete cds   |
| 10848            | 23530           | 36775          | 4.49              | 4.0E-91                              | AL163284.2            | NT  | Homo sapiens chromosome 21 segment HS21C084   |
| 12094            | 24596           | 31082          | 1.98              | 4.0E-91                              | M77894.1              | EST_HUMAN                                       | EST01579 Hippocampus, Striatum (cat #386205) Homo sapiens cDNA clone HH-CMC80 similar to Retrovirus-related gag polyprotein   |
| 12094            | 24596           | 31127          | 1.98              | 4.0E-91                              | M77894.1              | EST_HUMAN                                       | EST01579 Hippocampus, Striatum (cat #386205) Homo sapiens cDNA clone HH-CMC80 similar to Retrovirus-related gag polyprotein   |
| 1613             | 14380           | 27049          | 3.07              | 3.0E-91                              | 11430183              | NT  | Homo sapiens solute carrier family 4, anion exchanger, member 3 (SLC4A3), mRNA  |
| 1613             | 14380           | 27050          | 3.07              | 3.0E-91                              | 11430183              | NT  | Homo sapiens solute carrier family 4, anion exchanger, member 3 (SLC4A3), mRNA  |
| 3334             | 16094           | 28746          | 1.62              | 3.0E-91                              | AL163283.2            | NT  | Homo sapiens chromosome 21 segment HS21C083   |
| 3455             | 16211           | 28863          | 3.39              | 3.0E-91                              | AB033104.1            | NT  | Homo sapiens mRNA for KIAA1278 protein, partial cds   |
| 3455             | 16211           | 28864          | 3.39              | 3.0E-91                              | AB033104.1            | NT  | Homo sapiens mRNA for KIAA1278 protein, partial cds   |
| 3768             | 169320          | 29159          | 1.45              | 3.0E-91                              | AF084630.1            | NT  | Homo sapiens cyclin-D binding Myb-like protein mRNA, complete cds   |
| 4551             | 17286           | 28915          | 3.78              | 3.0E-91                              | M30838.1              | NT  | Human Ku (p70/p80) subunit mRNA, complete cds   |
| 5600             | 16395           | 31305          | 1.27              | 3.0E-91                              | 11434984              | NT  | Homo sapiens epoxidized secretory protein (19.5kD) (HE1), mRNA  |
| 6212             | 18987           |                | 2.48              | 3.0E-91                              | 4502740               | NT  | Homo sapiens cyclin-dependent kinase 6 (CDK6) mRNA  |
| 6483             | 19255           | 32256          | 5.82              | 3.0E-91                              | 11497611              | NT  | Homo sapiens gamma-aminobutyric acid (GABA) B receptor, 1 (GABBR1), transcript variant 2, mRNA  |

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**Table 4**

**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Meet Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|--|--------------------|
| 6488             | 19255           | 32257          | 5.82              | 3.0E-91                    | 11497011 NT           | Homo sapiens gamma-aminobutyric acid (GABA) B receptor, 1 (GABBR1), transcript variant 2, mRNA       |                    |
| 7533             | 20208           | 33306          | 4.97              | 3.0E-91                    | U86559.1              | Human L-type calcium channel beta-1 subunit (CACNLB1) gene, exons 10 and 11                          |                    |
| 7533             | 20209           | 33307          | 4.97              | 3.0E-91                    | U86559.1              | Human L-type calcium channel beta-1 subunit (CACNLB1) gene, exons 10 and 11                          |                    |
| 8869             | 21361           | 34508          | 2.58              | 3.0E-91                    | D16494.1              | Human mRNA for very low density lipoprotein receptor, complete cds                                   |                    |
| 9183             | 21853           | 35023          | 2.83              | 3.0E-91                    | AB011168.1            | Homo sapiens mRNA for KIAA0594 protein, partial cds  |                    |
| 10803            | 23486           | 36723          | 1.41              | 3.0E-91                    | AB032178.2            | Homo sapiens EHMM2 mRNA, complete cds  |                    |
| 11160            | 23827           | 37105          | 1.66              | 3.0E-91                    | AB028903.1            | Homo sapiens mRNA for KIAA1080 protein, partial cds  |                    |
| 11160            | 23827           | 37106          | 1.66              | 3.0E-91                    | AB028903.1            | Homo sapiens mRNA for KIAA1080 protein, partial cds  |                    |
| 12335            | 24749           | 31067          | 2                 | 3.0E-91                    | AF240788.1            | Homo sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1) |                    |
| 12687            | 17988           | 30489          | 4.35              | 3.0E-91                    | AF169555.1            | Homo sapiens beta-ureidopropionase (BUP1) gene, exon 6 genes, complete cds                           |                    |
| 12687            | 17988           | 30489          | 4.35              | 3.0E-91                    | AF169555.1            | Homo sapiens beta-ureidopropionase (BUP1) gene, exon 6 genes, complete cds                           |                    |
| 47               | 12878           | 25501          | 5.08              | 1.0E-91                    | AL163284.2            | Homo sapiens chromosome 21 segment HS21(C084   |                    |
| 1223             | 13973           | 26845          | 6.31              | 1.0E-91                    | AW449746.1            | EST_HUMAN_UH-B13-els-d01-0-U.1 NT  |                    |
| 5328             | 18131           | 30780          | 0.97              | 1.0E-91                    | 11434402 NT           | Homo sapiens hypothetical protein PRO1855 (PRO1855), mRNA  |                    |
| 6743             | 19577           | 32810          | 2.28              | 1.0E-91                    | BF348182.1            | EST_HUMAN_6020220888F1 NT  |                    |
| 6743             | 19577           | 32811          | 2.28              | 1.0E-91                    | BF348182.1            | Homo sapiens cDNA clone IMAGE:4157804 5'   |                    |
| 12245            | 25340           |                | 1.35              | 1.0E-91                    | HT8212.1              | EST_HUMAN_6020220888F1 NT  |                    |
| 1219             | 13970           | 26839          | 9.06              | 9.0E-92                    | AJ001689.1            | ym30603.r1 Scores infant brain 1NIB Homo sapiens cDNA clone IMAGE:49587 5'                           |                    |
| 1219             | 13970           | 26840          | 9.06              | 9.0E-92                    | AJ001689.1            | Homo sapiens NK2D gene, exon 10  |                    |
| 5120             | 17838           | 30454          | 0.9               | 9.0E-92                    | AB020840.1            | Homo sapiens mRNA for KIAA0833 protein, partial cds  |                    |
| 5379             | 18178           | 30987          | 4.86              | 9.0E-92                    | JQ3007.1              | Human Ne <sup>+</sup> K <sup>+</sup> ATPase alpha-subunit mRNA, partial cds                          |                    |
| 5518             | 18316           | 31217          | 2.83              | 9.0E-92                    | 11427149 NT           | Homo sapiens hypothetical protein FLJ20280 (FLJ20280), mRNA  |                    |
| 6362             | 19132           | 32127          | 4.03              | 9.0E-92                    | AF310105.1            | Homo sapiens NALP1 mRNA, complete cds  |                    |
| 7756             | 20452           | 333576         | 7.17              | 9.0E-92                    | AJ250568.1            | Homo sapiens partial TM4SF2 gene for tetraspanin protein, exon 6                                     |                    |
| 7756             | 20452           | 333577         | 7.17              | 9.0E-92                    | AJ250568.1            | Homo sapiens partial TM4SF2 gene for tetraspanin protein, exon 6                                     |                    |
| 8272             | 20886           | 34107          | 0.92              | 9.0E-92                    | AB040945.1            | Homo sapiens mRNA for KIAA1512 protein, partial cds  |                    |
| 8272             | 20886           | 34108          | 0.92              | 9.0E-92                    | AB040945.1            | Homo sapiens mRNA for KIAA1512 protein, partial cds  |                    |
| 9174             | 21844           | 35010          | 1.95              | 9.0E-92                    | 11422086 NT           | Homo sapiens briefolin A-inhibited guanine nucleotide exchange protein 2 (BIG2), mRNA                |                    |
| 11161            | 23828           |                | 1.95              | 9.0E-92                    | 7706886 NT            | Homo sapiens RNBB (RNBB), mRNA   |                    |
| 91               | 12917           | 25554          | 2.25              | 8.0E-92                    | W26367.1              | EST_HUMAN_2613 Human retina cDNA randomly primed sublibrary Homo sapiens cDNA                        |                    |
| 279              | 13096           | 25728          | 3.29              | 8.0E-92                    | BE386983.1            | EST_HUMAN_601273513F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:3614687 5'                            |                    |

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 Table 4  
 Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NC: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 5041             | 17760           | 30374          | 0.98              | 8.0E-92                              | AW157571.1            | EST_HUMAN               | eu83108.x1 Schmiditer fetal brain 00004 Homo sapiens cDNA clone MAGE-2782911 3' similar to TR-060302 OS60302 KIAA0555 PROTEIN. contains element MER22 repetitive element; |
| 5308             | 18113           | 30771          | 0.65              | 8.0E-92                              | AB048820.1            | NT                      | Homo sapiens mRNA for KIAA1600 protein, partial cds   |
| 5411             | 18210           | 30918          | 0.97              | 8.0E-92                              | AF234717.1            | NT                      | Homo sapiens FYVE domain-containing dual specificity protein phosphatase FYVE-DSP2 mRNA, complete cds   |
| 6451             | 18219           | 32217          | 1.31              | 8.0E-92                              | AJ000978.1            | NT                      | Homo sapiens MCP-4 gene   |
| 6465             | 18223           | 32222          | 0.92              | 8.0E-92                              | AF179428.1            | NT                      | Homo sapiens DNA polymerase zeta catalytic subunit variant 1 (REV3) mRNA, complete cds  |
| 7890             | 20685           |                | 0.55              | 8.0E-92                              | 11418961              | NT                      | Homo sapiens AIM-1 protein (LOC55115); mRNA   |
| 8324             | 21017           | 34152          | 3.81              | 8.0E-92                              | LD4193.1              | NT                      | Human lens membrane protein (mp19) gene, exon 11  |
| 8324             | 21017           | 34153          | 3.81              | 8.0E-92                              | LD4193.1              | NT                      | Human lens membrane protein (mp19) gene, exon 11  |
| 8422             | 21115           | 34253          | 0.58              | 8.0E-92                              | 11428569              | NT                      | Homo sapiens transcription termination factor, RNA polymerase II (TTF2), mRNA   |
| 8860             | 21651           | 34801          | 2.82              | 8.0E-92                              | AB014511.1            | NT                      | Homo sapiens mRNA for KIAA0811 protein, partial cds   |
| 8925             | 22573           | 35771          | 1.18              | 8.0E-92                              | Y13829.1              | NT                      | Homo sapiens mRNA for MBNL1 protein   |
| 10707            | 23397           | 39838          | 3.2               | 8.0E-92                              | AF074363.1            | NT                      | Homo sapiens nuclear mitogen- and stress-activated protein kinase-1 (MSK1) mRNA, complete cds   |
| 11533            | 24024           | 37929          | 1.81              | 8.0E-92                              | 4503340               | NT                      | Homo sapiens dihydrolipoamide S-acetyltransferase (E2 component of 2-oxo-glutarate complex) (DLST) mRNA   |
| 23               | 12851           | 25468          | 1.62              | 7.0E-92                              | AB031007.1            | NT                      | Homo sapiens DNA, MHC class I region, 7.1 ancestral haplotype   |
| 64               | 12692           | 25525          | 1.01              | 7.0E-92                              | M60676.1              | NT                      | Human von Willebrand factor pseudogene corresponding to exons 23 through 34   |
| 230              | 15538           | 25680          | 0.87              | 7.0E-92                              | AB018301.1            | NT                      | Homo sapiens mRNA for KIAA0758 protein, partial cds   |
| 230              | 15538           | 25681          | 0.87              | 7.0E-92                              | AB018301.1            | NT                      | Homo sapiens mRNA truncated isoform mRNA, complete cds  |
| 577              | 13357           |                | 1.34              | 7.0E-92                              | AR007822.1            | NT                      | Homo sapiens B-cell CLL/Lymphoma 7b (BCL7B) mRNA  |
| 1257             | 14003           | 26875          | 1.89              | 7.0E-92                              | 4502384               | NT                      | Homo sapiens ARP2 (actin-related protein 2, yeast) homolog (ACTR2), mRNA  |
| 2184             | 14913           | 27645          | 2.27              | 7.0E-92                              | 5031570               | NT                      | Homo sapiens ARP2 (actin-related protein 2, yeast) homolog (ACTR2), mRNA  |
| 2184             | 14913           | 27646          | 2.27              | 7.0E-92                              | 5031570               | NT                      | Homo sapiens S52 precursor, mRNA, complete cds  |
| 2568             | 15282           | 28020          | 1.46              | 7.0E-92                              | AF167706.1            | NT                      | Homo sapiens cyclin-rich repeat-containing protein S52 precursor, mRNA  |
| 2728             | 15435           | 28171          | 2.2               | 7.0E-92                              | 6009738               | NT                      | Homo sapiens N-RAS-related gene (D1S156E), mRNA   |
| 2757             | 15462           | 28205          | 1.23              | 7.0E-92                              | AB031007.1            | NT                      | Homo sapiens DNA, MHC class I region, 7.1 ancestral haplotype   |
| 3340             | 17877           | 28750          | 1.08              | 7.0E-92                              | 4607500               | NT                      | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TIAM1) mRNA   |
| 3340             | 17877           | 28761          | 1.08              | 7.0E-92                              | 4501500               | NT                      | N-CAM=145 kda neural cell adhesion molecule [human, small cell lung cancer cell line OS2-R, mRNA, 2800 nt]  |
| 4547             | 17282           | 28912          | 2.59              | 7.0E-92                              | ST1824.1              | NT                      | N-CAM=145 kda neural cell adhesion molecule [human, small cell lung cancer cell line OS2-R, mRNA, 2800 nt]  |
| 4547             | 17282           | 28913          | 2.59              | 7.0E-92                              | ST1824.1              | NT                      |   |

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**Table 4**  
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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor  |  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|---|---|--|
| 4944 17871       | 30280           | 0.98           | 7.0E-92           | AL168281.2                           | NT                    | Homo sapiens chromosome 21 segment HS21C081                       |   |  |
| 6180 17889       | 30504           | 8.05           | 7.0E-92           | AA446206.1                           | EST_HUMAN             | 24186412.11 Soares, J. NIH Homo sapiens cDNA clone IMAGE:781175.5 |   |  |
| 1582 14328       |                 | 1.29           | 5.0E-92           | BE390882.1                           | EST_HUMAN             | 24183012F1 NIH MGC_44 Homo sapiens cDNA clone IMAGE:3605018.5     |   |  |
| 2768 15473       | 29215           |                | 1.6               | 3.0E-92                              | BER09714.1            | EST_HUMAN   | 601501242F1 NIH MGC_70 Homo sapiens cDNA clone IMAGE:3902839.5  |  |
| 6786 18577       | 31508           |                | 2.6               | 3.0E-92                              | AA378336.1            | EST_HUMAN   | EST191020 Synovial sarcoma Homo sapiens cDNA 5' end similar to ribosomal protein S13  |  |
| 10884 23385      | 36594           |                | 2.72              | 3.0E-92                              | X115804.1             | NT  | Human mRNA for alpha-actinin  |  |
| 10884 23385      | 36595           |                | 2.72              | 3.0E-92                              | X115804.1             | NT  | Human mRNA for alpha-actinin  |  |
| 24 12852         | 25467           |                | 1.68              | 2.0E-92                              | 4501898               | NT  | Homo sapiens actinin A receptor, type IIb (ACVR2B) mRNA   |  |
| 174 12886        | 25625           |                | 3.57              | 2.0E-92                              | 11422846              | NT  | Homo sapiens hypothetical protein J4462023.2 (D4462023.2), mRNA   |  |
| 174 12886        | 25626           |                | 3.57              | 2.0E-92                              | 11422846              | NT  | Homo sapiens hypothetical protein J4462023.2 (D4462023.2), mRNA   |  |
| 732 13506        | 26162           |                | 1.33              | 2.0E-92                              | BE288190.1            | EST_HUMAN   | 601118337F1 NIH MGC_17 Homo sapiens cDNA clone IMAGE:3028304.5  |  |
| 732 13506        | 26163           |                | 1.33              | 2.0E-92                              | BE288190.1            | EST_HUMAN   | 601118337F1 NIH MGC_17 Homo sapiens cDNA clone IMAGE:3028304.5  |  |
| 1709 14482       |                 |                | 2.22              | 2.0E-92                              | S78653.1              | NT  | migraines-related [Human, Cervicitis, 2416 nt]  |  |
| 1828 14685       | 27378           |                | 2.36              | 2.0E-92                              | AB18119.1             | EST_HUMAN   | wk27607x1 NCI CGAP Bm25 Homo sapiens cDNA clone IMAGE:2413549.3' similar to TR-Q12844   |  |
| 1929 14685       | 27378           |                | 2.38              | 2.0E-92                              | AB18119.1             | EST_HUMAN   | wk27607x1 NCI CGAP Bm25 Homo sapiens cDNA clone IMAGE:2413549.3' similar to TR-Q12844   |  |
| 2041 14776       | 27504           |                | 5.58              | 2.0E-92                              | 4505860               | NT  | Q12844 BREAKPOINT CLUSTER REGION PROTEIN;   |  |
| 2694 16374       | 28113           |                | 19.2              | 2.0E-92                              | 6912457               | NT  | Homo sapiens syndecan 4 (epithelial glycan, hyaluronan) (SDC4) mRNA   |  |
| 3600 16353       | 28392           |                | 2.61              | 2.0E-92                              | AF231919.1            | NT  | Homo sapiens calcineurin binding protein 1 (KIAA0330), mRNA   |  |
| 3600 16363       | 28393           |                | 2.61              | 2.0E-92                              | AF231919.1            | NT  | Homo sapiens chromosome 21 unknown mRNA   |  |
| 3674 16427       | 28068           |                | 5.57              | 2.0E-92                              | 5803180               | NT  | Homo sapiens stress-induced-phosphoprotein 1 (Hsp70/Hsp90-organizing protein) (STIP1), mRNA                                       |  |
| 4236 16897       | 28626           |                | 1.23              | 2.0E-92                              | MT0976.1              | NT  | Human endogenous retroviral DNA (4-1), complete retroviral segment  |  |
| 4636 17684       |                 |                | 2.51              | 2.0E-92                              | AI040437.1            | EST_HUMAN   | DKFZp434C0414.1 T-434 (synonym: hsc3) Homo sapiens cDNA clone DKFZp434C0414.5   |  |
| 5673 18468       | 31363           |                | 0.84              | 2.0E-92                              | AF016535.1            | NT  | Homo sapiens P-glycoprotein (mdr1) mRNA, complete cds   |  |
| 6229 18984       |                 |                | 0.6               | 2.0E-92                              | 4504756               | NT  | Homo sapiens integrin, alpha L (antigen CD11A (p180), lymphocyte function-associated antigen 1; alpha poly-peptide) (ITGA1), mRNA |  |
| 6517 19282       | 32285           |                | 3.03              | 2.0E-92                              | AB028991.1            | NT  | Homo sapiens mRNA for KIAA1068 protein, partial cds   |  |
| 7384 20045       |                 |                | 0.61              | 2.0E-92                              | U67780.1              | NT  | Human NPY Y1-like receptor pseudogene mRNA, complete cds  |  |
| 7387 20045       |                 |                | 0.78              | 2.0E-92                              | U67780.1              | NT  | Human NPY Y1-like receptor pseudogene mRNA, complete cds  |  |
| 8754 21446       | 34594           |                | 1.69              | 2.0E-92                              | AW340174.1            | EST_HUMAN   | hd0202x1 Soares, N.F.L.T. GBC_S1 Homo sapiens cDNA clone IMAGE:2908371 3' similar to TR-Q02711                                    |  |
| 10659 23350      | 36587           |                | 4.93              | 2.0E-92                              | 11434900              | NT  | CD2711 PRO-POL-DUTPASE POLYPROTEIN;   |  |
|                  |                 |                |                   |                                      |                       |   | Homosapiens thyroid stimulating hormone receptor (TSHR), mRNA   |  |

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| Probe SEQ ID NO. | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLASTE Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|-------------------------------------|-----------------------|-------------------------|---|
| 10830            | 23610           | 38859          | 1.48              | 2.0E-92                             | 11434759              | NT                      | Homo sapiens zinc finger protein 168 (ZNF168), mRNA   |
| 10978            | 23653           | 38908          | 2.54              | 2.0E-92                             | 5803103               | NT                      | Homo sapiens mate-specific lethal-3 (Drosophila)-like 1 (MSL3L1), mRNA  |
| 12439            | 24899           | 31046          | 2.69              | 2.0E-92                             | AB028016.1            | NT                      | Homo sapiens mRNA for KIAA1093 protein, partial cds   |
| 12897            | 15374           | 28113          | 2.51              | 2.0E-92                             | 6912457               | NT                      | Homo sapiens calcineurin binding protein 1 (KIAA0330), mRNA   |
| 18422            | 14580           | 27284          | 1.13              | 1.0E-92                             | R78078.1              | EST_HUMAN               | y80e08.r1 Scores: placenta Ni2+P Homo sapiens cDNA clone IMAGE:145574.5'  |
| 18421            | 14580           | 27285          | 1.13              | 1.0E-92                             | R78078.1              | EST_HUMAN               | y80e08.r1 Scores: placenta Ni2+P Homo sapiens cDNA clone IMAGE:145574.5'  |
| 20688            | 14798           | 27725          | 8.83              | 1.0E-92                             | 4506888               | NT                      | Homo sapiens ribosomal protein, large, P1 (RPLP1) mRNA  |
| 8145             | 20839           | 33971          | 1.29              | 1.0E-92                             | BE429825.1            | EST_HUMAN               | HTM1_288F HTM1 NCI CGAP_CLL1 Homo sapiens cDNA clone IMAGE:2107467 5' similar to SW:PTTNF_HUMAN                     |
| 9062             | 21751           | 34910          | 3.82              | 1.0E-92                             | A380356.1             | EST_HUMAN               | tg01b02_x1 NCI CGAP_CLL1 Homo sapiens cDNA clone IMAGE:2107467 3' similar to SW:PTTNF_HUMAN                         |
| 9062             | 21751           | 34911          | 3.82              | 1.0E-92                             | A380356.1             | EST_HUMAN               | Q16825 PROTEIN-TYROSINE PHOSPHATASE D1 ;contains Alu repetitive element;contains element MER17 repetitive element;  |
| 2023             | 14768           | 27487          | 3                 | 9.0E-93                             | AU121681.1            | EST_HUMAN               | tg01b02_x1 NCI CGAP_CLL1 Homo sapiens cDNA clone MAMMA1000738 5'  |
| 2035             | 14770           |                | 5.48              | 9.0E-93                             | AA316723.1            | EST_HUMAN               | EST188414 HCC cell line (metastasis to liver in mouse) II Homo sapiens cDNA 5' end similar to ribosomal protein L28 |
| 28553            | 15363           |                | 1.45              | 9.0E-93                             | AF2223391.1           | NT                      | Homo sapiens calcium channel alpha1E subunit (CACNA1E) gene, exons 7-9, and partial cds, alternatively spliced      |
| 3802             | 16355           | 26935          | 1.11              | 9.0E-93                             | BE388571.1            | EST_HUMAN               | 601281867F1 NIH_3T3G_44 Homo sapiens cDNA clone IMAGE:3603832 5'  |
| 11646            | 24242           |                | 9.71              | 9.0E-93                             | 11418526              | NT                      | Homo sapiens fibosomal protein L10a (FLP10A), mRNA  |
| 6351             | 19121           | 32112          | 0.58              | 8.0E-93                             | AW014042.1            | EST_HUMAN               | U1+BI0-eat1-h-06-0-U1_s1 NCI CGAP_Sub1 Homo sapiens cDNA clone IMAGE:2708371 3'                                     |
| 6351             | 19121           | 32113          | 0.58              | 8.0E-93                             | AW014042.1            | EST_HUMAN               | U1+BI0-eat1-h-06-0-U1_s1 NCI CGAP_Sub1 Homo sapiens cDNA clone IMAGE:2708371 3'                                     |
| 6498             | 19282           | 32263          | 2.51              | 8.0E-93                             | BP036664.1            | EST_HUMAN               | 60149052/F1 NIH_3T3G_88 Homo sapiens cDNA clone IMAGE:3883808 5'  |
| 239              | 13048           | 26887          | 9.92              | 7.0E-93                             | AF221919.1            | NT                      | Homo sapiens chitosanase Z1 unknown mRNA  |
| 3073             | 158339          | 28482          | 0.84              | 6.0E-93                             | 11526176              | NT                      | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TIAM1), mRNA  |
| 6581             | 19844           | 32358          | 1.02              | 6.0E-93                             | AB033093.1            | NT                      | Homo sapiens mRNA for KIAA1267 protein, partial cds   |
| 68917            | 19478           | 32501          | 1.12              | 6.0E-93                             | AF095771.1            | NT                      | Homo sapiens mRNA for KIAA1267 protein, partial cds   |
| 1359             | 14107           | 26782          | 3.51              | 5.0E-93                             | AB014511.1            | NT                      | Hom sapiens mRNA for KIAA0811 protein, partial cds  |
| 1358             | 14133           | 26807          | 7.28              | 5.0E-93                             | AB674184.1            | EST_HUMAN               | wc09cd8.x1 NCI CGAP_P728 Homo sapiens cDNA clone IMAGE:2314670 3'   |
| 1398             | 14133           | 26808          | 7.28              | 5.0E-93                             | AB674184.1            | EST_HUMAN               | wc09cd8.x1 NCI CGAP_P728 Homo sapiens cDNA clone IMAGE:2314670 3'   |
| 3227             | 15890           | 28643          | 2.98              | 5.0E-93                             | X04201.1              | NT                      | Human skeletal muscle 1.2 kb mRNA for trponyosin  |
| 5710             | 18503           | 31425          | 1.91              | 5.0E-93                             | M22878.1              | NT                      | Human somatic cytochrome c (HC1) processed pseudogene, complete cds   |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|--|
| 6018             | 18789           |                | 1.02              | 5.0E-93 AF045555.1         | NT                    |                         | Human sapiens Wbser1 (WBSCR1) and wbscr5 (WBSCR5) genes, complete cds, alternatively spliced and replication factor C subunit 2 (RFC2) gene, complete cds                  |
| 7614             | 20280           | 333389         | 3.6               | 5.0E-93 AF087138.1         | NT                    |                         | Human sapiens protein phosphatase-1 regulatory subunit 7 (PPP1R7) gene, exon 11, complete cds and alternatively spliced product  |
| 8503             | 21185           | 34338          | 1                 | 6.0E-93                    | 4557528 NT            |                         | Human sapiens discs, large (Drosophila) homolog 2 (chapsyr-110) (DLG2) mRNA  |
| 8503             | 21185           | 34339          | 1                 | 6.0E-93                    | 4557528 NT            |                         | Human sapiens discs, large (Drosophila) homolog 2 (chapsyr-110) (DLG2) mRNA  |
| 9623             | 22178           | 35380          | 2.16              | 5.0E-93 AF274883.1         | NT                    |                         | Human sapiens secretory pathway component Sec31B-1 mRNA, alternatively spliced, complete cds   |
| 9707             | 22358           | 35554          | 1.25              | 5.0E-93                    | 5032158 NT            |                         | Human sapiens TAR (HIV) RNA-binding protein 1 (TARBP1) mRNA  |
| 9970             | 22818           | 35821          | 1.9               | 5.0E-93 AF069313.2         | NT                    |                         | Human sapiens WSB1 protein (WSB1) mRNA, complete cds   |
| 10727            | 23416           | 36886          | 2.26              | 5.0E-93                    | 11439589 NT           |                         | Human sapiens nucleolin 2 (NUCB2), mRNA  |
| 12349            | 25052           | 30959          | 2.15              | 5.0E-93                    | 11417877 NT           |                         | Human sapiens gamma-glutamyltransferase 1 (GGT1), mRNA   |
| 12895            | 25052           | 30959          | 1.44              | 5.0E-93                    | 11417877 NT           |                         | Human sapiens gamma-glutamyltransferase 1 (GGT1), mRNA   |
| 88               | 12912           |                | 8.52              | 4.0E-93 AA458933.1         | EST_HUMAN             |                         | zgc:009_51 Soccaris testis_NI-T Human sapiens cDNA clone IMAGE:7956688 3' similar to SW.CLP_A RAT P37397 CALPOIN, ACIDIC ISOFORM :   |
| 432              | 13218           | 25983          | 1.39              | 4.0E-93                    | 4557379 NT            |                         | Human sapiens interferon gamma receptor 1 (IFNGR1) mRNA  |
| 432              | 13218           | 25984          | 1.39              | 4.0E-93                    | 4557379 NT            |                         | Human sapiens interferon gamma receptor 1 (IFNGR1) mRNA  |
| 765              | 13527           | 26186          | 1.67              | 4.0E-93                    | 7657454 NT            |                         | Human sapiens pescadillo (zebrafish) homolog 1, containing BRC1 domain (PES1), mRNA  |
| 755              | 13527           | 26187          | 1.67              | 4.0E-93                    | 7657454 NT            |                         | Human sapiens pescadillo (zebrafish) homolog 1, containing BRC1 domain (PES1), mRNA  |
| 1160             | 13914           | 26577          | 1.53              | 4.0E-93                    | 8923658 NT            |                         | Human sapiens hypothetical protein FLJ20731 (FLJ20731), mRNA   |
| 1970             | 14706           | 27424          | 4.3               | 4.0E-93 AF047677.1         | NT                    |                         | Human sapiens dystrophin (DMD) gene, deletion breakpoints 1-3 in intron 5  |
| 2241             | 14869           | 27707          | 0.88              | 4.0E-93 AF157476.1         | NT                    |                         | Human sapiens DNA polymerase zeta catalytic subunit (REV3) mRNA, complete cds  |
| 2397             | 15118           | 27855          | 1.65              | 4.0E-93 AL163301.2         | NT                    |                         | Human sapiens chromosome 21 segment HS2TC101   |
| 3663             | 16308           | 28958          | 0.73              | 4.0E-93                    | 7705386 NT            |                         | Human sapiens tumor antigen SLP-8p (HCC28), mRNA   |
| 4026             | 16771           | 29403          | 1.67              | 4.0E-93                    | 4504684 NT            |                         | Human sapiens Interleukin 18 receptor 1 (IL18R1) mRNA  |
| 5557             | 18354           | 31284          | 4.9               | 4.0E-93 T48834.1           | EST_HUMAN             |                         | ybc-12.11 Statogene liver (#837224) Human sapiens cDNA clone IMAGE:78838 5' similar to similar to SP-A4391 A44391 SERUM RESPONSE ELEMENT-BINDING PROTEIN SRE-ZBP - HUMAN . |
| 11078            | 23748           | 37023          | 6.17              | 4.0E-93 AF0892051.1        | EST_HUMAN             |                         | AV882051 GKC Human sapiens cDNA clone GKCDRF07 5'  |
| 3643             | 16398           | 28035          | 7.35              | 3.0E-93 BF6906830.1        | EST_HUMAN             |                         | 602248554F1 NIH_MGC_62 Human sapiens cDNA clone IMAGE:4332038 5'   |
| 3643             | 16398           | 28036          | 7.35              | 3.0E-93 BF6906830.1        | EST_HUMAN             |                         | 602248554F1 NIH_MGC_62 Human sapiens cDNA clone IMAGE:4332038 5'   |
| 4210             | 16851           |                | 1.31              | 3.0E-93 AF225886.1         | NT                    |                         | Human sapiens tensin mRNA, complete cds  |
| 6697             | 18491           | 31442          | 0.79              | 3.0E-93 AI563853.1         | EST_HUMAN             |                         | tr28g03_X1 NCI CGAP_Bm25 Human sapiens cDNA clone IMAGE:2168076 3'   |
| 5697             | 18491           | 31443          | 0.79              | 3.0E-93 AI563853.1         | EST_HUMAN             |                         | tr28g03_X1 NCI CGAP_Bm25 Human sapiens cDNA clone IMAGE:2168076 3'   |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 6468             | 19235           | 32236          | 1.21              | 3.0E-93                              | 11426182              | NT                      | Homo sapiens GCN5 (general control of amino-acid synthesis, yeast, homolog)-like 2 (GCN5L2), mRNA |
| 10703            | 23394           | 36631          | 4.27              | 3.0E-93                              | AB24829.1             | EST_HUMAN               | wb02045.x1 NCI_OGAP_GC1 Homo sapiens cDNA clone IMAGE:2304489 3'                                  |
| 185              | 12988           | 26637          | 7.51              | 2.0E-93                              | AB016810.1            | NT                      | Chlorocebus aethiops mRNA for ribosomal protein S4X, complete cds                                 |
| 185              | 12988           | 26638          | 7.51              | 2.0E-93                              | AB0156810.1           | NT                      | Chlorocebus aethiops mRNA for ribosomal protein S4X, complete cds                                 |
| 315              | 13119           | 26758          | 9.36              | 2.0E-93                              | AL163285.2            | NT                      | Homo sapiens chromosome 21 segment HS21C085   |
| 316              | 13119           | 26758          | 9.48              | 2.0E-93                              | AL163285.2            | NT                      | Homo sapiens chromosome 21 segment HS21C085   |
| 1810             | 14357           | 27046          | 1.33              | 2.0E-93                              | AR225888.1            | NT                      | Homo sapiens lensin mRNA, complete cds  |
| 2128             | 14857           | 27587          | 1.33              | 2.0E-93                              | U40783.1              | NT                      | Human Ck-associated RS cyclophilin CARS-Cyp mRNA, complete cds                                    |
| 2490             | 15207           | 27949          | 1.66              | 2.0E-93                              | BE252982.1            | EST_HUMAN               | 601117688F1 NIH_MGC_161 Homo sapiens cDNA clone IMAGE:3358220 5                                   |
| 5332             | 18135           | 30794          | 5.42              | 2.0E-93                              | AW984985.1            | EST_HUMAN               | EST378458 MAGE3 sequences, MAGH 1-Homo sapiens cDNA   |
| 5342             | 18145           | 30824          | 0.68              | 2.0E-93                              | 4758153               | NT                      | Homo sapiens deafness, autosomal dominant 5 (DFNA5), mRNA   |
| 5455             | 18254           |                | 1.04              | 2.0E-93                              | BR351459.1            | EST_HUMAN               | QV3-HT0513-290360-128-h04-HT0513_Homo sapiens cDNA  |
| 6550             | 18347           | 31256          | 1.13              | 2.0E-93                              | 11430039              | NT                      | Homo sapiens hypothetical protein (LOC51318), mRNA  |
| 5565             | 18362           | 31270          | 0.65              | 2.0E-93                              | U74313.1              | EST_HUMAN               | HSU74313 Human chromosome 14 Homo sapiens cDNA clone 1-88   |
| 6584             | 18347           |                | 1.1               | 2.0E-93                              | AV502002.1            | EST_HUMAN               | UJ-HFBND-ak5-g-08-0-U1.1 NIH_MGC_50 Homo sapiens cDNA clone IMAGE:3078329 5'                      |
| 11014            | 22688           | 38946          | 1.27              | 2.0E-93                              | AV721846              | EST_HUMAN               | AV721846 HTB Homo sapiens cDNA clone HTBAUB04 5'  |
| 11014            | 22686           | 38947          | 1.27              | 2.0E-93                              | AV721846              | EST_HUMAN               | AV721846 HTB Homo sapiens cDNA clone HTBAUB04 5'  |
| 12233            | 24686           |                | 2.64              | 2.0E-93                              | AA126735.1            | EST_HUMAN               | Z18c10.51 Soares_pregnant uterus_NbHPU Homo sapiens cDNA clone IMAGE:5033346 3'                   |
| 12314            | 24736           |                | 2.17              | 2.0E-93                              | L41825.1              | NT                      | Homo sapiens CTP17 gene, 5' end   |
| 12571            | 24889           |                | 10.79             | 2.0E-93                              | BF035327.1            | EST_HUMAN               | 001488531F1 NIH_MGC_86 Homo sapiens cDNA clone IMAGE:3882088 5'                                   |
| 101              | 12927           | 25584          | 2.29              | 1.0E-93                              | AF238997.1            | NT                      | Homo sapiens CTR1 pseudogene  |
| 101              | 12927           | 25585          | 2.29              | 1.0E-93                              | AF238997.1            | NT                      | Homo sapiens CTR1 pseudogene  |
| 505              | 13289           | 25923          | 4.25              | 1.0E-93                              | 7857016               | NT                      | Homo sapiens hypothetical protein (D3328E18.C1.1), mRNA   |
| 588              | 19368           | 25994          | 4.57              | 1.0E-93                              | AI48765.1             | EST_HUMAN               | QV48408.x1 NCI_CGAP_C11 Homo sapiens cDNA clone IMAGE:1672503 3' similar to TR:Q622384 Q622394    |
| 852              | 13622           | 26292          | 8.91              | 1.0E-93                              | D87675.1              | NT                      | ZINC FINGER PROTEIN ;   |
| 1144             | 13899           | 26560          | 2.9               | 1.0E-93                              | 4503872               | NT                      | Homo sapiens DNA for amyloid precursor protein, complete cds                                      |
| 1215             | 13985           | 26632          | 7.85              | 1.0E-93                              | 8923270               | NT                      | Homo sapiens glutamate decarboxylase 1 (brain, 67kD) (GAD67), transcript variant GAD67, mRNA      |
| 1216             | 13985           | 26833          | 7.65              | 1.0E-93                              | 8923270               | NT                      | Homo sapiens hypothetical protein FLJ20291 (FLJ20291), mRNA                                       |
| 1322             | 14071           | 26744          | 1.5               | 1.0E-93                              | AB046783.1            | NT                      | Homo sapiens mRNA for KIAA1563 protein, partial cds   |
| 1324             | 14073           | 26746          | 0.99              | 1.0E-93                              | AF167706.1            | NT                      | Homo sapiens cysteine-rich repeat-containing protein S22 precursor, mRNA, complete cds            |
| 2337             | 15061           | 27798          | 1.33              | 1.0E-93                              | AF2231981.1           | NT                      | Homo sapiens long chain polyunsaturated fatty acid elongation enzyme (HELO1) mRNA, complete cds   |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe Seq ID No: | Exon Seq ID No: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 2468             | 15184           | 27924          | 1.7               | 1.0E-83                              | AF059066.1            | NT                      | Homo sapiens Mi-TC class 1 region  |
| 2511             | 15228           |                | 0.96              | 1.0E-83                              | AL197200.1            | NT                      | Novel human gene mapping to chromosome 1   |
| 2825             | 14022           | 28689          | 1.47              | 1.0E-83                              | BE297369.1            | EST_HUMAN               | MGC_17 Homo sapiens cDNA clone IMAGE:3532985 5'  |
| 2825             | 14022           | 28690          | 1.47              | 1.0E-83                              | BE297369.1            | EST_HUMAN               | MGC_17 Homo sapiens cDNA clone IMAGE:3532985 5'  |
| 2834             | 15700           | 28949          | 7.48              | 1.0E-83                              | D87675.1              | NT                      | Homo sapiens DNA for amyloid precursor protein, complete cds   |
| 3210             | 15673           |                |                   | 1.27                                 | 1.0E-83               | AF231981.1              | NT   |
| 4395             | 17132           | 28763          | 2.6               | 1.0E-83                              | AL163284.2            | NT                      | Homo sapiens chromosome 21 segment HS21C084  |
| 5479             | 18278           | 31173          | 2.38              | 1.0E-83                              | U78509.1              | NT                      | Homo sapiens glutocorticoid receptor (GCR) gene, intron 5, and Intron E  |
| 5479             | 18278           | 31174          | 2.38              | 1.0E-83                              | U78509.1              | NT                      | Homo sapiens glutocorticoid receptor (GCR) gene, intron 5, and Intron E  |
| 5678             | 18472           | 31389          | 0.98              | 1.0E-83                              | AF227138.1            | NT                      | Homo sapiens candidate taste receptor T2R14 gene, complete cds   |
| 5825             | 18614           | 31546          | 10.32             | 1.0E-83                              | 4557792               | NT                      | Homo sapiens neurofibromin 1 (neurofibromatosis, von Recklinghausen disease, NF1) mRNA                                   |
| 6104             | 18882           | 31850          | 1.4               | 1.0E-83                              | 7662241               | NT                      | Homo sapiens KIAA0872 gene product (KIAA0872), mRNA  |
| 6894             | 19611           | 32850          | 2.01              | 1.0E-83                              | 11431580              | NT                      | Homo sapiens protein kinase C, beta 1 (PRKCB1), mRNA   |
| 7160             | 19837           | 32807          | 3.49              | 1.0E-83                              | D20272.1              | NT                      | Human mRNA for NF1 N-isofrom-exon11, complete cds  |
| 8158             | 20862           | 33894          | 2.54              | 1.0E-83                              | AB037882.1            | NT                      | Homo sapiens mRNA for KIAA1411 protein, partial cds  |
| 8441             | 21133           | 34269          | 1.2               | 1.0E-83                              | Y10183.1              | NT                      | H.sapiens mRNA for MEND protein  |
| 8547             | 21239           | 34382          | 1.38              | 1.0E-83                              | AF182032.1            | NT                      | Homo sapiens protein kinase inhibitor gamma (PKIG) mRNA, complete cds  |
| 8352             | 20423           | 33542          | 1.79              | 1.0E-83                              | AB040918.1            | NT                      | Homo sapiens mRNA for KIAA1485 protein, partial cds  |
| 9398             | 20427           | 33546          | 1.26              | 1.0E-83                              | AF081385.1            | NT                      | Homo sapiens Trio isoform mRNA, complete cds   |
| 9488             | 22141           | 36319          | 8.29              | 1.0E-83                              | X13474.1              | NT                      | Human PreAA gene for Alzheimer's disease A4 amyloid protein precursor (exon 9)   |
| 9488             | 22141           | 35920          | 8.29              | 1.0E-83                              | X13474.1              | NT                      | Human PreAA gene for Alzheimer's disease A4 amyloid protein precursor (exon 9)   |
| 9625             | 22278           | 35467          | 0.70              | 1.0E-83                              | AL049801.1            | NT                      | Novel human gene mapping to chromosome 13, similar to rat RhoGAP   |
| 10045            | 22683           | 35910          | 0.62              | 1.0E-83                              | 11433848              | NT                      | Homo sapiens tyrosine receptor 3 (RYF3), mRNA  |
| 12487            | 24846           |                | 1.84              | 1.0E-83                              | AJ230125.1            | NT                      | Homo sapiens GGT1 gene, exon 1   |
| 12568            | 24898           |                | 2.84              | 1.0E-83                              | 11417856              | NT                      | Homo sapiens glutathione S-transferase theta 2 (GSTT2), mRNA   |
| 12739            | 25391           |                | 1.49              | 1.0E-83                              | AF240788.1            | NT                      | Homo sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1) genes, complete cds |
| 10492            | 23138           |                | 1.03              | 8.0E-84                              | AL163209.2            | NT                      | Homo sapiens chromosome 21 segment HS21C008  |
| 3944             | 16694           | 28333          | 1.63              | 6.0E-84                              | AF142482.1            | NT                      | Homo sapiens transcription enhancer factor-5 mRNA, complete cds  |
| 6283             | 18088           | 30747          | 4.23              | 5.0E-84                              | AB014512.1            | NT                      | Homo sapiens mRNA for KIAA08612 protein, partial cds   |
| 5283             | 18088           | 30748          | 4.23              | 5.0E-84                              | AB014512.1            | NT                      | Homo sapiens mRNA for KIAA08612 protein, partial cds   |
| 5957             | 18739           | 31698          | 4.22              | 5.0E-84                              | AA722434.1            | EST_HUMAN               | Zg87g08.st Scans fetal heart NbHH1stW Homo sapiens cDNA clones IMAGE:409594 3'   |

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 Table 4  
 Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------|-----------------------|-------------------------|--|
| 6910             | 18648           | 32693          | 1.29              | 5.0E-94                        | AJ0158900.1           | EST_HUMAN               | cd83d65.s1 Scores_ total fetus_Nb2HF8_9w Homo sapiens cDNA clone IMAGE:1623369 3'  |
| 8537             | 21229           | 34371          | 1.11              | 5.0E-94                        | BF529115.1            | EST_HUMAN               | 602042163F1 NCI_CGAP_Bm7 Homo sapiens cDNA clone IMAGE:4180023 5'  |
| 12209            | 25394           | 30619          | 9.99              | 5.0E-94                        | T89398.1              | EST_HUMAN               | yd88bd4.s1 Scores_fetal liver spleen 1NF1S Homo sapiens cDNA clone IMAGE:110239 3'   |
| 12758            | 25017           |                | 1.5               | 5.0E-94                        | D25217.2              | NT                      | Homo sapiens mRNA for KIAA0027 protein, partial cds  |
| 12761            | 25021           |                | 1.98              | 5.0E-94                        | 9558724               | NT                      | Homo sapiens cleavage and polyadenylation specific factor 1, 180kD subunit (CPSE1), mRNA                                     |
| 1834             | 14573           |                | 2.84              | 4.0E-94                        | LD05084.1             | NT                      | Homo sapiens ribosomal protein L27 mRNA, complete cds  |
| 2682             | 15872           | 28111          | 0.92              | 4.0E-94                        | 4508008               | NT                      | Homo sapiens protein phosphatase 1, regulatory subunit 10 (PPP1R10) mRNA   |
| 3681             | 18414           | 28053          | 1.38              | 4.0E-94                        | AW197851.1            | EST_HUMAN               | xn88f12.x1 Scores_NFL_T GBC_S1 Homo sapiens cDNA clone IMAGE:2701679 3'  |
| 3681             | 18414           | 28054          | 1.38              | 4.0E-94                        | AW197851.1            | EST_HUMAN               | xn88f12.x1 Scores_NFL_T GBC_S1 Homo sapiens cDNA clone IMAGE:2701679 3'  |
| 4689             | 17403           | 30038          | 2.87              | 4.0E-94                        | AJ591312.1            | EST_HUMAN               | Iw1f110.x1 NCL_CGAP_Bm52 Homo sapiens cDNA clone IMAGE:2256403 3' similar to TR.Q15265 Q15265 PROTEIN TYROSINE PHOSPHATASE : |
| 6376             | 19145           | 32143          | 1.82              | 4.0E-94                        | 11440570              | NT                      | Homo sapiens solute carrier family 22 (organic cation transporter), member 1-like (SLC22A1L), mRNA                           |
| 6376             | 19145           | 32144          | 1.82              | 4.0E-94                        | 11440670              | NT                      | Homo sapiens solute carrier family 22 (organic cation transporter), member 1-like (SLC22A1L), mRNA                           |
| 6812             | 19473           |                | 1.18              | 4.0E-94                        | L27388.1              | NT                      | Homo sapiens huntingtin (HD) gene, exon 37   |
| 11431            | 23198           | 38429          | 1.5               | 4.0E-94                        | 11545792              | NT                      | Homo sapiens hypothetical protein FLJ12455 (FLJ12455), mRNA  |
| 697              | 13375           | 28005          | 1.44              | 3.0E-94                        | AB022785.1            | NT                      | Homo sapiens ASH2L gene, complete cds, similar to Drosophila ash2 gene   |
| 704              | 13479           | 26127          | 0.88              | 3.0E-94                        | 4502506               | NT                      | Homo sapiens complement component 5 (C5) mRNA  |
| 1733             | 14476           | 27173          | 1.19              | 3.0E-94                        | AF167706.1            | NT                      | Homo sapiens cysteine-rich repeat-containing protein S52 precursor, mRNA, complete cds                                       |
| 1733             | 14475           | 27174          | 1.19              | 3.0E-94                        | AF167708.1            | NT                      | Homo sapiens E1A binding protein p300 (EP300) mRNA   |
| 1785             | 14507           | 27208          | 2.61              | 3.0E-94                        | 4557553               | NT                      | Homo sapiens hepatic leukemia factor (HLF), mRNA   |
| 2073             | 14805           | 27534          | 1.27              | 3.0E-94                        | 11427779              | NT                      | Homo sapiens hepatic leukemia factor (HLF), mRNA   |
| 4168             | 169016          | 29534          | 0.83              | 3.0E-94                        | AA464805.1            | EST_HUMAN               | zmc83g08.1 Scores_total_fetus Nb2HF8_9w Homo sapiens cDNA clone IMAGE:774782 5'  |
| 5595             | 18390           | 31301          | 3.41              | 3.0E-94                        | 11496288              | NT                      | Homo sapiens zinc finger protein 277 (ZNF277), mRNA  |
| 6059             | 18839           | 31800          | 1.33              | 3.0E-94                        | AB011536.1            | NT                      | Homo sapiens mRNA for MEGF2, partial cds   |
| 6360             | 19130           | 32125          | 4                 | 3.0E-94                        | 11526228              | NT                      | Homo sapiens chromosome 21 open reading frame 18 (C21orf18), mRNA  |
| 7696             | 20359           | 33473          | 1.7               | 3.0E-94                        | 4826863               | NT                      | Homo sapiens neuronal cell adhesion molecule (NRCAM), mRNA   |
| 8098             | 20792           | 33923          | 1.18              | 3.0E-94                        | AF152209.1            | NT                      | Homo sapiens protocadherin alpha 13 (PCDH-alpha13) mRNA, complete cds  |
| 8486             | 21178           | 34322          | 4.35              | 3.0E-94                        | AB014579.1            | NT                      | Homo sapiens mRNA for KIAA0079 protein, partial cds  |
| 9492             | 22145           | 35326          | 5.23              | 3.0E-94                        | AF087842.1            | NT                      | Homo sapiens glycoprotein-1L mRNA, complete cds  |
| 11043            | 23713           | 36883          | 3.26              | 3.0E-94                        | 4757321               | NT                      | Homo sapiens axonal transport of synaptic vesicles (ATSV) mRNA   |
| 11679            | 24274           | 37596          | 1.84              | 3.0E-94                        | U26711.1              | NT                      | Human cbfb truncated form 1 lacking leucine zipper mRNA, complete cds  |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe<br>SEQ ID<br>NO. | Exon<br>SEQ ID<br>NO: | ORF SEQ<br>ID NO: | Expression<br>Signal | Most Similar<br>(Top) Hit<br>BLAST E<br>Value | Top Hit Accession<br>No. | Top Hit<br>Database<br>Source                      | Top Hit Descriptor  |  |
|------------------------|-----------------------|-------------------|----------------------|---|--------------------------|--|---|--|
|                        |                       |                   |                      |   |                          |  |   |  |
| 9853                   | 22305                 | 35501             | 0.7                  | 2.0E-94                                       | AJ910383.1               | EST_HUMAN  | wf30h11_x1_NCI_CGAP_Co16 Homo sapiens cDNA clone IMAGE:2381813'3'                                     |  |
| 9853                   | 22305                 | 35502             | 0.7                  | 2.0E-94                                       | AJ910383.1               | EST_HUMAN  | wf30h11_x1_NCI_CGAP_Co16 Homo sapiens cDNA clone IMAGE:2381813'3'                                     |  |
| 144                    | 12859                 | 25601             | 1.84                 | 1.0E-94                                       | BE295714.1               | EST_HUMAN  | 601175762F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:3531038'5'                                       |  |
| 3088                   | 16851                 | 28482             | 2.07                 | 1.0E-94                                       | BE253483.1               | EST_HUMAN  | 601111686F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3352559'5'                                       |  |
| 3088                   | 16851                 | 28493             | 2.07                 | 1.0E-94                                       | BE253483.1               | EST_HUMAN  | 601111686F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3352559'5'                                       |  |
| 4326                   | 17085                 | 29694             | 1.7                  | 1.0E-94                                       | 9506682 NT               | Homo sapiens hypothetical protein (FLJ20146), mRNA |   |  |
| 6932                   | 18763                 | 31727             | 0.84                 | 1.0E-94                                       | AEG00269.1               | NT   | Escherichia coli K-12 MG1655 section 158 of 400 of the complete genome                                |  |
| 6113                   | 18950                 | 31922             | 0.73                 | 1.0E-94                                       | AL040518.1               | EST_HUMAN  | DKFZ4934G0314.._r1_434 (synonym: ites3) Homo sapiens cDNA clone IMAGE:45053'5'                        |  |
| 6182                   | 18959                 | 31683             | 0.72                 | 1.0E-94                                       | H03270.1                 | EST_HUMAN  | Y87702_11 Scores infant brain 1NIB Homo sapiens cDNA clone IMAGE:45053'5'                             |  |
| 6426                   | 19194                 | 32190             | 0.58                 | 1.0E-94                                       | AV725892                 | HTC_Homo sapiens cDNA clone HTCBEF05'5'            |   |  |
| 8012                   | 20707                 | 32836             | 0.63                 | 1.0E-94                                       | AL163204.2               | NT   | Homo sapiens chromosome 21 segment HS21C004   |  |
| 8012                   | 20707                 | 32837             | 0.63                 | 1.0E-94                                       | AL163204.2               | NT   | Homo sapiens chromosome 21 segment HS21C004   |  |
| 9155                   | 21888                 | 35054             | 2.78                 | 1.0E-94                                       | 11428710                 | NT   | Homo sapiens paired box gene 5 (B-cell lineage specific activator protein) (PAX5), mRNA               |  |
| 8687                   | 22339                 | 35533             | 2.04                 | 1.0E-94                                       | BE780478.1               | EST_HUMAN  | 601468748F1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE:3872099'5'                                       |  |
| 11000                  | 23673                 | 36829             | 3.08                 | 1.0E-94                                       | U665690.1                | NT   | Homo sapiens IL-1 receptor antagonist II-1Ra (IL-1RN) gene, alternatively spliced forms, complete cds |  |
| 11288                  | 23949                 | 37245             | 2.82                 | 1.0E-94                                       | AJ272244.1               | EST_HUMAN  | sp22e02_x1_Schiller oligodendroglioma Homo sapiens cDNA clone IMAGE:1956122'3' similar to TR-Q628346  |  |
| 11754                  | 24345                 | 37675             | 1.72                 | 1.0E-94                                       | 11418871                 | NT   | Q62845_NEURAL CELL ADHESION PROTEIN BIG-2 PRECURSOR, mRNA   |  |
| 12230                  | 12959                 | 26601             | 1.45                 | 1.0E-94                                       | BE285714.1               | EST_HUMAN  | Homo sapiens KIAA0164 gene product (KIAA0164), mRNA   |  |
| 12608                  | 12859                 | 26601             | 1.51                 | 1.0E-94                                       | BE285714.1               | EST_HUMAN  | 601175762F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:3531038'5'                                       |  |
| 1459                   | 14206                 | 26892             | 1.83                 | 9.0E-95                                       | AF027302.1               | NT   | Homo sapiens TNF-alpha stimulated ABC protein (ABC50) mRNA, complete cds                              |  |
| 3153                   | 15916                 | 28581             | 1.45                 | 9.0E-95                                       | 76620277                 | NT   | Homo sapiens KIAA0255 gene product (KIAA0255), mRNA   |  |
| 3153                   | 15916                 | 28582             | 1.45                 | 9.0E-95                                       | 76620277                 | NT   | Homo sapiens gly1 genes (exons 1c and 2)  |  |
| 5320                   | 18123                 | 30781             | 1.33                 | 9.0E-95                                       | X82569.1                 | NT   | M.musculus gly1 gene (exons 1c and 2)   |  |
| 5320                   | 18123                 | 30782             | 1.33                 | 9.0E-95                                       | X82569.1                 | NT   | M.musculus progressive ankylosis-like protein (ANK) mRNA, complete cds                                |  |
| 8150                   | 20844                 | 33974             | 1.77                 | 9.0E-95                                       | AF274753.1               | NT   | Homo sapiens KIAA0255 gene product (KIAA0255), mRNA   |  |
| 4469                   | 17235                 | 29868             | 3.18                 | 8.0E-95                                       | AI700998.1               | EST_HUMAN  | W60864_x1_NCI_CGAP_Lu24_Homo sapiens cDNA clone IMAGE:2340806'3' similar to gbk005558                 |  |
| 4469                   | 17235                 | 29867             | 3.18                 | 8.0E-95                                       | AI700998.1               | EST_HUMAN  | TUBULIN ALPHA-1 CHAIN (HUMAN);  |  |
| 6849                   | 19540                 | 32579             | 0.76                 | 8.0E-95                                       | 11418376                 | NT   | W60864_x1_NCI_CGAP_Lu24_Homo sapiens cDNA clone IMAGE:2340806'3' similar to gbk005558                 |  |
| 7141                   | 19823                 | 32897             | 1.76                 | 8.0E-95                                       | 11426528                 | NT   | Homo sapiens proteasome (prosome, macropain) 28S subunit, non-ATPase, 11 (PSMD11), mRNA               |  |
| 7141                   | 19823                 | 32898             | 1.76                 | 8.0E-95                                       | 11426528                 | NT   | Homo sapiens proteasome (prosome, macropain) 28S subunit, non-ATPase, 11 (PSMD11), mRNA               |  |

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Table 4

## Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-------------|-------------------------|--|
| 8097             | 20791           | 33822          | 1.97              | 8.0E-95                              | Af032887.1  | NT                      | Human sepiens potassium channel subunit (HERG-3) mRNA, complete cds  |
| 82635            | 22019           | 35187          | 2                 | 8.0E-95                              | 11420394    | NT                      | Human sepiens KIAA0255 gene product (KIAA0255), mRNA   |
| 82635            | 22019           | 35188          | 2                 | 8.0E-95                              | 11420394    | NT                      | Human sepiens KIAA0255 gene product (KIAA0255), mRNA   |
| 9748             | 22389           | 35604          | 3.1               | 8.0E-95                              | 517484      | NT                      | Human sepiens indoline dehydrogenase (indole oxidase) (PRODH) mRNA   |
| 9779             | 22430           |                | 2.94              | 8.0E-95                              | Ab0337816.1 | NT                      | Human sepiens mRNA for KIAA1385 protein, partial cds   |
| 10135            | 22783           | 35694          | 0.8               | 8.0E-95                              | 984523      | NT                      | Human sepiens early growth response 2 (Krox-20 (Drosophila) homolog) (EGFR2), mRNA   |
| 10813            | 23307           | 36546          | 1.3               | 8.0E-95                              | Af7112152.1 | NT                      | Human sepiens developmental arteries and neural crest EGFR-like protein mRNA, complete cds   |
| 11468            | 24098           | 37377          | 1.88              | 8.0E-95                              | 10984424    | NT                      | Human sepiens HGF-binding transcription factor Zhangfis (ZF), mRNA   |
| 12835            | 24878           |                | 12.4              | 8.0E-95                              | AA629058.1  | EST_HUMAN               | z184k01_s1 Scores_ttests_NH-T Homo sapiens cDNA clone IMAGE:744649 3' similar to contains L1.H1 L1 repetitive element;   |
| 269              | 13077           | 25718          | 32.81             | 7.0E-95                              | D37675.1    | NT                      | Human sepiens DNA for amyloid precursor protein, complete cds  |
| 269              | 13077           | 25719          | 32.81             | 7.0E-95                              | D37676.1    | NT                      | Human sepiens DNA for amyloid precursor protein, complete cds  |
| 43333            | 17072           | 28701          | 5.18              | 7.0E-95                              | M95708.1    | NT                      | Human sepiens Ly-6-like protein (CD56) mRNA, complete cds  |
| 4380             | 17117           |                | 1.3               | 7.0E-95                              | AL163248.2  | NT                      | Human sepiens chromosome 21 segment HS21C046   |
| 9117             | 21805           | 34971          | 1.31              | 4.0E-95                              | BE439825.1  | EST_HUMAN               | HTM1-288F HTM1 Homo sapiens cDNA   |
| 6336             | 18158           | 30842          | 1.58              | 3.0E-95                              | Bf526841.1  | EST_HUMAN               | 60207146FT NCI CGAP_Bm84 Homo sapiens cDNA clone IMAGE:4214147 5'  |
| 5598             | 25071           | 31294          | 0.83              | 3.0E-95                              | 4503384     | NT                      | Human sepiens dedicator of cyto-kinesis 1 (DOCK1) mRNA   |
| 7268             | 18952           | 33027          | 1.51              | 3.0E-95                              | AW868121.1  | EST_HUMAN               | EST370191 MAGE resequences, MAGE Homo sapiens cDNA   |
| 7268             | 18952           | 33028          | 1.51              | 3.0E-95                              | AW868121.1  | EST_HUMAN               | EST370191 MAGE resequences, MAGE Homo sapiens cDNA   |
| 8278             | 20972           | 34113          | 0.55              | 3.0E-95                              | AW157233.1  | EST_HUMAN               | aa63008_x1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:27837789 3' similar to TR-0604463_0604463 TYPE-2 PHOSPHATIDIC ACID PHOSPHOHYDROLASE, [1]; |
| 8278             | 20972           | 34114          | 0.55              | 3.0E-95                              | AW157233.1  | EST_HUMAN               | aa63008_x1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:27837789 3' similar to TR-0604463_0604463 TYPE-2 PHOSPHATIDIC ACID PHOSPHOHYDROLASE, [1]; |
| 9255             | 21834           | 35107          | 1.89              | 3.0E-95                              | 7682289     | NT                      | Human sepiens KIAA0763 gene product (KIAA0763), mRNA   |
| 9255             | 21834           | 35108          | 1.89              | 3.0E-95                              | 7682289     | NT                      | Human sepiens KIAA0763 gene product (KIAA0763), mRNA   |
| 9847             | 22269           | 35495          | 0.73              | 3.0E-95                              | BF213446.1  | EST_HUMAN               | 601845212F1 NH_MGC_55 Homo sapiens cDNA clone IMAGE:4070451 6'   |
| 10792            | 23475           | 38716          | 1.49              | 3.0E-95                              | R83190.1    | EST_HUMAN               | yp876g11_r1 Scores fetal liver spleen 1NF1.5 Homo sapiens cDNA clone IMAGE:184468 5'   |
| 1639             | 14385           | 27072          | 2.31              | 2.0E-95                              | 768227      | NT                      | Human sepiens KIAA0255 gene product (KIAA0255), mRNA   |
| 1639             | 14385           | 27073          | 2.31              | 2.0E-95                              | 768227      | NT                      | Human sepiens tissue inhibitor of metalloproteinase 3 (Sorby fundus dystrophy, pseudodystrophy, pseudoinflammatory) (TIMM32) mRNA                              |
| 1634             | 14659           | 27384          | 2.51              | 2.0E-95                              | 4507512     | NT                      | 601312161F1 NH_MGC_44 Homo sapiens cDNA clone IMAGE:36538862 5'  |
| 1637             | 14672           | 27398          | 1.92              | 2.0E-95                              | BE383873.1  | EST_HUMAN               | 601312161F1 NH_MGC_44 Homo sapiens cDNA clone IMAGE:36538862 5'  |
| 2426             | 15147           | 27880          | 2.22              | 2.0E-95                              | 5453865     | NT                      | Human sepiens G protein-coupled receptor 19 (GPR19) mRNA   |
| 2426             | 15147           | 27881          | 2.22              | 2.0E-95                              | 5453865     | NT                      | Human sepiens G protein-coupled receptor 19 (GPR19) mRNA   |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO:   | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|--|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| <b>Human glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1)</b> |                 |                |                   |                                      |                       |                         |   |
| 2468   | 15188           | 27825          | 3.28              | 2.0E-95                              | AF240788.1            | NT                      | Human sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1) genes, complete cds |
| 2517   | 15223           | 27973          | 1.85              | 2.0E-95                              | 4759423               | NT                      | Human sapiens glutathione S-transferase system protein H (anthromethyl carrier) (GC3H1) mRNA                              |
| 3155   | 15918           | 28584          | 1.88              | 2.0E-95                              | AF015452.1            | NT                      | Human sapiens glycoside cleavage system protein H (anthromethyl carrier) mRNA, complete cds                               |
| 3552   | 16307           | 28969          | 3.07              | 2.0E-95                              | 7705900               | NT                      | Human sapiens Usurp-gamma mRNA, complete cds  |
| 3552   | 16307           | 28957          | 3.07              | 2.0E-95                              | 7705900               | NT                      | Human sapiens unconventional myosin-15 (LOC51168), mRNA   |
| 3605   | 16358           | 28988          | 1.28              | 2.0E-95                              | AB057807.1            | NT                      | Human sapiens unconventional myosin-15 (LOC51168) mRNA, partial cds   |
| 3732   | 16485           | 28122          | 0.68              | 2.0E-95                              | AJ280284.1            | EST_HUMAN               | q0102.x1 Scans_NhMPu_S1 Homo sapiens cDNA clone IMAGE:1680546 3' similar to WP:T22G7.4; CE03705;                          |
| 4328   | 17087           | 28695          | 1.32              | 2.0E-95                              | 7857185               | NT                      | Human sapiens hypothetical protein (HS322B1A), mRNA   |
| 4978   | 17701           | 30308          | 2.72              | 2.0E-95                              | 7681979               | NT                      | Human sapiens KIAA0187 gene product (KIAA0187), mRNA  |
| 5392   | 18182           | 30884          | 4.21              | 2.0E-95                              | 7705764               | NT                      | Human sapiens Cct-48 protein (LOC51098), mRNA   |
| 5392   | 18182           | 30885          | 4.21              | 2.0E-95                              | 7705764               | NT                      | Human sapiens Cct-48 protein (LOC51098), mRNA   |
| 5611   | 18407           | 31319          | 1.27              | 2.0E-95                              | 11225608              | NT                      | Human sapiens angiotensin I converting enzyme (peptidyl-dipeptidase A) 2 (ACE2), mRNA                                     |
| 5611   | 18407           | 31320          | 1.27              | 2.0E-95                              | 11225608              | NT                      | Human sapiens angiotensin I converting enzyme (peptidyl-dipeptidase A) 2 (ACE2), mRNA                                     |
| 5651   | 18448           | 31360          | 0.7               | 2.0E-95                              | 11525883              | NT                      | Human sapiens membrane protein, palmitoylated 3 (MAGUK p55 subfamily member 3) (MPP3), mRNA                               |
| 6051   | 18831           | 31794          | 5.04              | 2.0E-95                              | MS8724.1              | NT                      | Human muscle-type phosphotriokinase (PFKM) gene, exon 7   |
| 6358   | 19128           | 32122          | 1.16              | 2.0E-95                              | 11427182              | NT                      | Human sapiens transcription factor 2, hepatic; LF-B2; variant hepatic nuclear factor (TCF2), mRNA                         |
| 6358   | 19128           | 32123          | 1.16              | 2.0E-95                              | 11427182              | NT                      | Human sapiens transcription factor 2, hepatic; LF-B2; variant hepatic nuclear factor (TCF2), mRNA                         |
| 6478   | 19243           | 32243          | 2.45              | 2.0E-95                              | AJ257737.1            | NT                      | Human sapiens citrulline/dynamin heavy chain 3 (DNAH9), mRNA, complete cds  |
| 6668   | 19583           | 32617          | 1.82              | 2.0E-95                              | 11435773              | NT                      | Human sapiens huntingtin (Huntington disease) (HD), mRNA  |
| 8041   | 21731           | 34986          | 1.08              | 2.0E-95                              | 11421785              | NT                      | Human sapiens ribophorin II (RPN2), mRNA  |
| 10280  | 22828           | 36142          | 0.84              | 2.0E-95                              | 11434330              | NT                      | Human sapiens protein kinase C epsilon type IA (BMPRT1), mRNA   |
| 10624  | 23317           | 36657          | 2.48              | 2.0E-95                              | 4757853               | NT                      | Human sapiens KIAA0763 gene product (KIAA0763), mRNA  |
| 11700  | 24285           | 37620          | 3.02              | 2.0E-95                              | 7682289               | NT                      | Human sapiens KIAA0763 gene product (KIAA0763), mRNA  |
| 11700  | 24285           | 37621          | 3.02              | 2.0E-95                              | 7682289               | NT                      | Human sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1) genes, complete cds |
| 12289  | 24724           | 31055          | 2.3               | 2.0E-95                              | AF240788.1            | NT                      | Human sapiens adenylosuccinate lyase (ADSL), mRNA   |
| 12688  | 24980           | 30894          | 4.68              | 2.0E-95                              | 11418184              | NT                      | Z23n04.1 Scans ovary tumor NbHOT Human sepiens cDNA clone IMAGE:714007 5' similar to TRG1067084 G1067084 F55H2.6;         |
| 5527   | 18325           | 31226          | 8.41              | 1.0E-95                              | AA284651.1            | EST_HUMAN               | Z23n04.1 Scans ovary tumor NbHOT Human sepiens cDNA clone IMAGE:714007 5' similar to TRG1067084 G1067084 F55H2.6;         |
| 5527   | 18325           | 31227          | 8.41              | 1.0E-95                              | AA284651.1            | EST_HUMAN               | TRG1067084 G1067084 F55H2.6;  |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF-SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|---|--|
| 7444             | 20891           | 33175          | 4.3               | 1.0E-95                    | BF370000.1            | EST_HUMAN   | RC8-FN0018-280800-011-G11 FN0019 Homo sapiens cDNA   |
| 7444             | 20891           | 33176          | 4.3               | 1.0E-95                    | BF370000.1            | EST_HUMAN   | RC8-FN0018-280800-011-G11 FN0019 Homo sapiens cDNA   |
| 7444             | 20891           | 33920          | 1.49              | 9.0E-98                    | BE897259.1            | EST_HUMAN   | MGC_72 Homo sapiens cDNA clone IMAGE:3922423 5'  |
| 8094             | 20788           |                |                   |                            |                       |   | PMD-L10319-090300-002-409 LT0019 Homo sapiens cDNA   |
| 5424             | 18223           |                |                   | 2.77                       | 8.0E-95               | AW836047.1  | EST_HUMAN  |
| 3889             | 16639           | 28278          | 0.74              | 7.0E-95                    | AF231920.1            | NT  | Homo sapiens chromosome 21 unknown mRNA  |
| 3476             | 16232           | 28896          | 20.13             | 6.0E-98                    | M26873.1              | NT  | Human glyceraldehyde-3-phosphate dehydrogenase pseudogene 3' end                                     |
| 5552             | 18349           | 31258          | 0.74              | 8.0E-98                    | 11422642              | NT  | Homo sapiens sialyltransferase 6 (N-acetylgalactosaminide alpha 2,3-sialyltransferase) (SIAT6), mRNA |
| 11534            | 24134           | 37439          | 3.36              | 6.0E-98                    | 7662289               | NT  | Homo sapiens KIAA0763 gene product (KIAA0763), mRNA  |
| 11534            | 24134           | 37440          | 3.36              | 6.0E-98                    | 7662289               | NT  | Homo sapiens KIAA0763 gene product (KIAA0763), mRNA  |
| 11584            | 24183           | 37498          | 2.05              | 6.0E-98                    | 8923939               | NT  | Homo sapiens KIAA0763 gene product (KIAA0763), mRNA  |
| 11768            | 24260           | 37692          | 1.83              | 6.0E-98                    | 7662289               | NT  | Homo sapiens KIAA0763 gene product (KIAA0763), mRNA  |
| 11768            | 24260           | 37693          | 1.83              | 6.0E-98                    | 7662289               | NT  | Homo sapiens KIAA0763 gene product (KIAA0763), mRNA  |
| 3112             | 13116           | 25754          | 2.74              | 5.0E-98                    | AB032998.1            | NT  | Homo sapiens mRNA for KIAA1172 protein, heavy polypeptide 2, skeletal muscle, adult (MYH2), mRNA     |
| 822              | 13592           | 26260          | 4.08              | 5.0E-98                    | AB032998.1            | NT  | Homo sapiens mRNA for KIAA1172 protein, partial cds  |
| 822              | 13592           | 26261          | 4.08              | 5.0E-98                    | AB032998.1            | NT  | Homo sapiens mRNA for KIAA1172 protein, partial cds  |
| 2624             | 16338           |                | 1.43              | 5.0E-98                    | X68612.1              | NT  | Homo sapiens phosphodiesterase 6A, cGMP-specific, rod, alpha (PDDE6A), mRNA                          |
| 4848             | 17576           |                | 1.39              | 5.0E-98                    | X68612.1              | NT  | Homo sapiens DNA for monamine oxidase type A (MAO-A) (partial)                                       |
| 6553             | 18318           | 32324          | 1.15              | 6.0E-98                    | AF49773.1             | NT  | Homo sapiens NOD1 protein (NOD1) gene, exons 1, 2, and 3   |
| 6553             | 18318           | 32639          | 5.18              | 5.0E-98                    | 11424399              | NT  | Homo sapiens A kinase (PRKA) anchor protein 1 (AKAP1), mRNA  |
| 6554             | 19601           | 32640          | 5.18              | 5.0E-98                    | 11424399              | NT  | Homo sapiens A kinase (PRKA) anchor protein 1 (AKAP1), mRNA  |
| 6554             | 19601           | 32706          | 0.71              | 6.0E-98                    | AB023177.1            | NT  | Homo sapiens mRNA for KIAA0980 protein, partial cds  |
| 6923             | 19659           | 32706          | 1.98              | 5.0E-98                    | AB024334.1            | NT  | Homo sapiens mRNA for 14-3-3gamma, complete cds  |
| 7415             | 20092           | 33177          | 1.35              | 5.0E-98                    | M68347.1              | NT  | Human type IV collagenase (CLC4B) gene, exon 6   |
| 8005             | 20700           | 33828          | 1.35              | 5.0E-98                    | M68347.1              | NT  | Human type IV collagenase (CLC4B) gene, exon 6   |
| 8005             | 20700           | 33829          | 1.35              | 5.0E-98                    | 7661973               | NT  | Homo sapiens KIAA0176 gene product (KIAA0176), mRNA  |
| 11793            | 24383           | 37716          | 1.4               | 5.0E-98                    | EST_HUMAN             | y87712.11 Scores fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:212327 5' |  |
| 4168             | 16908           |                | 12.32             | 3.0E-99                    | H68656.1              | EST_HUMAN   | Homo sapiens chondroitin sulfate proteoglycan 4 (melanoma-associated) (CSPG4), mRNA                  |
| 406              | 13181           |                | 4.24              | 2.0E-95                    | 4503098               | NT  | Homo sapiens chromosome 21 segment HS21C048  |
| 730              | 13504           | 28159          | 0.91              | 2.0E-95                    | AL163248.2            | NT  | Homo sapiens chromosome 21 segment HS21C048  |
| 4708             | 17440           | 30072          | 1.89              | 2.0E-95                    | BE148074.1            | EST_HUMAN   | RC3-HT0230-045500-110-g02-HT0230 Homo sapiens cDNA   |
| 7361             | 20042           | S3120          | 0.62              | 2.0E-95                    | BF369731.1            | EST_HUMAN   | QV4-GN0120-250900-427-b12 GN0120 Homo sapiens cDNA   |
| 7361             | 20042           | S3121          | 0.62              | 2.0E-95                    | BF369731.1            | EST_HUMAN   | QV4-GN0120-250900-427-b12 GN0120 Homo sapiens cDNA   |
| 8879             | 24570           |                | 5.63              | 2.0E-95                    | AV689461.1            | EST_HUMAN   | AV689461 GKC Homo sapiens cDNA clone IMAGE:2819351 5'  |
| 12009            | 24543           |                | 2.81              | 2.0E-95                    | AV249440.1            | EST_HUMAN   | 2819351.5 prime NIH_MSC_7 Homo sapiens cDNA clone IMAGE:2819351 5'                                   |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 608              | 13388           | 28016          | 2.6               | 1.0E-98                              | 4826863               | NT                      | Homo sapiens neuronal cell adhesion molecule (NRCAM) mRNA  |
| 608              | 13388           | 28017          | 2.6               | 1.0E-98                              | 4826863               | NT                      | Homo sapiens neuronal cell adhesion molecule (NRCAM) mRNA  |
| 656              | 13433           | 28074          | 3.38              | 1.0E-98                              | Y18880_1              | NT                      | Human endogenous retrovirus type K (HERV-K), gag, pol and env genes                                      |
| 1774             | 14616           | 27216          | 2.58              | 1.0E-98                              | AW855054_1            | EST_HUMAN               | EST367124 MAGE resequences, MAGC Homo sapiens cDNA   |
| 1774             | 14516           | 27217          | 2.56              | 1.0E-98                              | AW855054_1            | EST_HUMAN               | EST367124 MAGE resequences, MAGC Homo sapiens cDNA   |
| 2282             | 15527           | 27729          | 1.06              | 1.0E-98                              | U51472_2              | NT                      | Fatty catus superfasc myosin heavy chain (fshHC) mRNA, complete cds                                      |
| 68889            | 17849           | 30541          | 1.3               | 1.0E-98                              | 69112735              | NT                      | Homo sapiens transient receptor potential channel 5 (TRPC5), mRNA  |
| 6949             | 19491           | 32447          | 0.97              | 1.0E-98                              | 69112455              | NT                      | Homo sapiens guanine nucleotide exchange factor Rap1 (KIAA0277), mRNA                                    |
| 8111             | 20805           | 33088          | 1.24              | 1.0E-98                              | 76811863              | NT                      | Homo sapiens HSPC144 protein (HSPC144), mRNA   |
| 8111             | 20805           | 33089          | 1.24              | 1.0E-98                              | 76811863              | NT                      | Homo sapiens HSPC144 protein (HSPC144), mRNA   |
| 8816             | 21308           | 34450          | 20.66             | 1.0E-98                              | 11419429              | NT                      | Homo sapiens similar to ectonucleotide pyrophosphatase/phosphodiesterase 3 (H. sapiens) (LOC63214), mRNA |
| 8749             | 21441           | 34688          | 2.09              | 1.0E-98                              | AF274863_1            | NT                      | Homo sapiens secretory pathway component Sec31B-1 mRNA, alternatively spliced, complete cds              |
| 10059            | 22707           | 35624          | 1.24              | 1.0E-98                              | AB033116_1            | NT                      | Homo sapiens mRNA for KIAA1280 protein, partial cds  |
| 10059            | 22707           | 35925          | 1.24              | 1.0E-98                              | AB033116_1            | NT                      | Homo sapiens mRNA for KIAA1280 protein, partial cds  |
| 11889            | 13388           | 28016          | 1.97              | 1.0E-98                              | 4826863               | NT                      | Homo sapiens neuronal cell adhesion molecule (NRCAM) mRNA  |
| 11889            | 13388           | 28017          | 1.97              | 1.0E-98                              | 4826863               | NT                      | Homo sapiens neuronal cell adhesion molecule (NRCAM) mRNA  |
| 7457             | 20131           |                | 2.6               | 6.0E-97                              | BE141849_1            | EST_HUMAN               | IL5-HT0117-011089-004-D207 HT0117_Homo sapiens cDNA  |
| 8832             | 21624           | 34670          | 0.69              | 6.0E-97                              | BE888012_1            | EST_HUMAN               | 60114031771 NIH_MGC_72_Homo sapiens cDNA clone IMAGE-3925133 5'  |
| 8832             | 21524           | 34671          | 0.69              | 6.0E-97                              | BE888012_1            | EST_HUMAN               | 60114031771 NIH_MGC_72_Homo sapiens cDNA clone IMAGE-3925133 5'  |
| 10497            | 23143           | 36869          | 0.57              | 6.0E-97                              | AA320332_1            | EST_HUMAN               | EST728672_Adipose tissue, white II_Homo sapiens cDNA 5' end  |
| 10497            | 23143           | 36870          | 0.57              | 6.0E-97                              | AA320332_1            | EST_HUMAN               | EST728672_Adipose tissue, white II_Homo sapiens cDNA 5' end  |
| 11382            | 23889           | 37280          | 1.48              | 6.0E-97                              | X15804_1              | NT                      | Human mRNA for alpha-acitin  |
| 7813             | 20808           | 38739          | 1.91              | 5.0E-97                              | AL043814_2            | EST_HUMAN               | DKFZp424N0323_1_424 (synonym: hsc2) Homo sapiens cDNA clone DKFZp424N0323_1 similar to TR-G1304125       |
| 8042             | 20736           | 38869          | 11.73             | 5.0E-97                              | AA418028_1            | EST_HUMAN               | Z67612_81 Scores_NtHMPu_S1_Homo sapiens cDNA clone IMAGE_767758 3' similar to TR-G1304125                |
| 8574             | 22227           | 35412          | 2.68              | 5.0E-97                              | BF154912_1            | EST_HUMAN               | G1304125_PMS4 mRNA; RC0-BT0812-250900-032-009 BT0812_Homo sapiens cDNA                                   |
| 11535            | 24135           | 37441          | 1.98              | 5.0E-97                              | BE148597_1            | EST_HUMAN               | MFR-HT0241-1-150500-010-b02 HT0241_Homo sapiens cDNA   |
| 11535            | 24135           | 37442          | 1.98              | 5.0E-97                              | BE148597_1            | EST_HUMAN               | MFR-HT0241-1-150500-010-b02 HT0241_Homo sapiens cDNA   |
| 9118             | 13685           | 26349          | 1.59              | 4.0E-97                              | BE004448_1            | EST_HUMAN               | CMD-BN0108-170300-283-e03 BN0108_Homo sapiens cDNA   |
| 9228             | 13695           | 26359          | 1.04              | 4.0E-97                              | AB030176_1            | NT                      | Homo sapiens PAD-H19 mRNA for peptidylarginine deiminase type II, complete cds                           |
| 9228             | 13695           | 26360          | 1.04              | 4.0E-97                              | AB030176_1            | NT                      | Homo sapiens PAD-H19 mRNA for peptidylarginine deiminase type II, complete cds                           |
| 1803             | 14840           | 27349          | 1.07              | 4.0E-97                              | 5453572               | NT                      | Homo sapiens brevetin A-inhibited guanine nucleotide-exchange protein 2 (BEG2), mRNA                     |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO. | Exon SEQ ID NO. | ORF SEQ ID NO. | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|--|
|                  |                 |                |                   |                                      |                       |                         |   |  |
| 5478             | 18277           | 31172          | 0.61              | 4.0E-97                              | 4557328               | NT                      | Human sapiens apolipoprotein H (beta-2-glycoprotein I) (APOH) mRNA  |  |
| 5765             | 18556           | 31482          | 0.85              | 4.0E-97                              | U08002.1              | NT                      | Human N-methyl-D-aspartate receptor modulatory subunit 2A (NMR2A) mRNA; complete cds  |  |
| 5765             | 18556           | 31483          | 0.95              | 4.0E-97                              | U08002.1              | NT                      | Human N-methyl-D-aspartate receptor modulatory subunit 2A (NMR2A) mRNA; complete cds  |  |
| 6725             | 19559           | 92590          | 6.47              | 4.0E-97                              | Y11339.2              | NT                      | Human sapiens mRNA for GalNAc alpha-2, 6-sialyltransferase 1, long form   |  |
| 6725             | 19559           | 32591          | 6.47              | 4.0E-97                              | Y11339.2              | NT                      | Human sapiens mRNA for GalNAc alpha-2, 6-sialyltransferase 1, long form   |  |
| 6921             | 19657           | 32703          | 1                 | 4.0E-97                              | 77/0125               | NT                      | Human sapiens ligase III, DNA, ATP-dependent (LIG3), transcript variant alpha, mRNA   |  |
| 6988             | 19450           | 32468          | 1.05              | 4.0E-97                              | 11422153              | NT                      | Human sapiens cystic fibrosis transmembrane conductance regulator, ATP-binding cassette (sub-family C, member 7) (CFTR), mRNA |  |
| 8038             | 20731           | 33863          | 0.57              | 4.0E-97                              | 4557708               | NT                      | Human sapiens laminin, alpha 2 (merosh, congenital muscular dystrophy) (LAMA2) mRNA   |  |
| 8259             | 20950           | 34087          | 2.63              | 4.0E-97                              | 11421783              | NT                      | Human sapiens v-src avian sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (SRC), mRNA                                     |  |
| 8519             | 21210           | 34363          | 0.75              | 4.0E-97                              | 11423233              | NT                      | Human sapiens cytochrome P450, subfamily IVB, polypeptide 1 (CYP4B1), mRNA  |  |
| 9147             | 21878           | 35043          | 1.23              | 4.0E-97                              | AB011168.1            | NT                      | Human sapiens mRNA for KIAA0594 protein, partial cds  |  |
| 9147             | 21878           | 35044          | 1.23              | 4.0E-97                              | AB011168.1            | NT                      | Human sapiens laminin, alpha 2 (merosh, congenital muscular dystrophy) (LAMA2) mRNA   |  |
| 11116            | 23786           | 37062          | 1.88              | 4.0E-97                              | 11863122              | NT                      | Human sapiens v-src avian sarcoma (Schmidt-Ruppin A-2) viral oncogene homolog (SRC), mRNA                                     |  |
| 11116            | 23788           | 37063          | 1.88              | 4.0E-97                              | 11863122              | NT                      | Human sapiens mRNA for KIAA0594 protein, partial cds  |  |
| 11412            | 23179           | 38407          | 3.61              | 4.0E-97                              | AB042557.1            | NT                      | Human sapiens mRNA for KIAA1280 protein, partial cds  |  |
| 11415            | 23182           | 38411          | 1.82              | 4.0E-97                              | AB033116.1            | NT                      | Human sapiens mRNA for KIAA1280 protein, partial cds  |  |
| 11415            | 23182           | 38412          | 1.62              | 4.0E-97                              | AB033116.1            | NT                      | Human sapiens mRNA for KIAA1280 protein, partial cds  |  |
| 12180            | 24862           |                | 7.76              | 4.0E-97                              | 11418318              | NT                      | Human sapiens G-2 and S-phase expressed 1 (GTSE1), mRNA   |  |
| 236              | 13046           | 25685          | 1.14              | 3.0E-97                              | AB032988.1            | NT                      | Human sapiens mRNA for KIAA1172 protein, partial cds  |  |
| 854              | 13824           | 28294          | 29.53             | 3.0E-97                              | 4502186               | NT                      | Human sapiens amyloid beta (A4) precursor protein (protease nexin-II, Alzheimer disease) (APP), mRNA                          |  |
| 854              | 13824           | 26295          | 29.53             | 3.0E-97                              | 4502186               | NT                      | Human sapiens amyloid beta (A4) precursor protein (protease nexin-II, Alzheimer disease) (APP), mRNA                          |  |
| 1422             | 15569           | 26855          | 1.29              | 3.0E-97                              | 4758813               | NT                      | Human N-myc (and ST1AT) Interactor (NMI), mRNA  |  |
| 2440             | 15529           | 27385          | 1.68              | 3.0E-97                              | U36255.1              | NT                      | Human beta-prime-adaptin (BAM22) gene, exon 7   |  |
| 3254             | 16010           | 28667          | 1.3               | 3.0E-97                              | 5174478               | NT                      | Human sapiens per centrin (PCNT) mRNA   |  |
| 4729             | 17461           | 30098          | 12.89             | 1.0E-97                              | 4503470               | NT                      | Human sapiens eddy poly translation elongation factor 1 alpha 1 (EEF1A1) mRNA   |  |
| 6333             | 19103           | 32091          | 2.48              | 1.0E-97                              | BE568486.1            | EST_HUMAN               | 601338520F1 NIH_3T3 cDNA clone IMAGE:3681821 5'   |  |
| 8344             | 20415           | 33534          | 1.16              | 1.0E-97                              | AW378970.1            | EST_HUMAN               | RC01-H10258-211189-011-905 HT0258 Homo sapiens cDNA   |  |
| 8344             | 20415           | 33535          | 1.16              | 1.0E-97                              | AW378978.1            | EST_HUMAN               | RC01-H10258-211189-011-905 HT0258 Homo sapiens cDNA clone IMAGE:128194 3'   |  |
| 9684             | 22316           | 35513          | 1.6               | 1.0E-97                              | R10887.1              | EST_HUMAN               | y38c8.81 Soares fetal liver spleen 1NF1S Homo sapiens cDNA  |  |
| 10604            | 22298           | 36538          | 3.44              | 1.0E-97                              | 11427757              | NT                      | Hom sapiens KIAA0649 gene product (KIAA0649), mRNA  |  |
| 10604            | 22298           | 36539          | 3.44              | 1.0E-97                              | 11427757              | NT                      | Hom sapiens KIAA0649 gene product (KIAA0649), mRNA  |  |

Table 4

## Single Exon Probes Expressed in Brain

| Probe Seq ID NO: | Exon Seq ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLASTE Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|---------------------------|-----------------------|---|--|
| 11280            | 23941           | 37235          | 2.03              | 1.0E-97                   | AA553761.1            | EST_HUMAN   | nk29-g02_s1 NCI_CGAP_Co11 Homo sapiens cDNA clone IMAGE:10146822 3'                  |
| 11445            | 23212           | 38443          | 14.01             | 1.0E-97                   | 11426272 NT           | Homo sapiens ribosomal protein S16 (RPS15), mRNA  |  |
| 11445            | 23212           | 38444          | 14.01             | 1.0E-97                   | 11426272 NT           | Homo sapiens ribosomal protein S16 (RPS15), mRNA  |  |
| 881              | 13850           | 28319          | 3.52              | 9.0E-98                   | BE069073.1            | EST_HUMAN   | PM4-BT0724-010400-008-e12 BT0724 Homo sapiens cDNA                                   |
| 1253             | 14002           | 28870          | 1.12              | 9.0E-98                   | 88930922 NT           | Homo sapiens cat eye syndrome critical region gene 1 (CECR1), mRNA  |  |
| 6210             | 18985           |                | 0.71              | 9.0E-98                   | AJ250713.1            | NT  | Homo sapiens CLDN12 gene for claudin-12  |
| 7190             | 18878           | 32949          | 0.67              | 9.0E-98                   | 7681871 NT            | Homo sapiens leucyl-tRNA synthetase, mitochondrial (KIAA0028), mRNA   |  |
| 7288             | 18869           | 33046          | 0.6               | 9.0E-98                   | 11419408 NT           | Homo sapiens A kinase (PRKA) anchor protein (yotiao) 9 (AKAP9), mRNA  |  |
| 7825             | 20520           | 33846          | 4.79              | 9.0E-98                   | 4758119 NT            | Homo sapiens death-associated protein (DAP), mRNA   |  |
| 7825             | 20520           | 33847          | 4.79              | 9.0E-98                   | 4758119 NT            | Homo sapiens death-associated protein (DAP), mRNA   |  |
| 8014             | 21704           | 34854          | 0.23              | 9.0E-98                   | X06988.1              | NT  | Human mRNA for amyloid A4(751) protein   |
| 9124             | 21812           | 34977          | 1.5               | 9.0E-98                   | 11321580 NT           | Homo sapiens succinate-CoA ligase, GDP-forming, alpha subunit (SUCLG1), mRNA  |  |
| 9182             | 21862           | 35027          | 1.59              | 9.0E-98                   | AB037788.1            | NT  | Homo sapiens mRNA for KIAA1365 protein, partial cds                                  |
| 8238             | 21917           |                | 0.96              | 9.0E-98                   | AF057728.1            | NT  | Homo sapiens 17-beta-hydroxysteroid dehydrogenase V (HSD17B4) gene, exon 8           |
| 9267             | 22021           | 35190          | 1.14              | 9.0E-98                   | 4507070 NT            | Homo sapiens SW/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 3 (SMARCA3), mRNA |  |
| 9267             | 22021           | 35191          | 1.14              | 9.0E-98                   | 4507070 NT            | Homo sapiens SW/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 3 (SMARCA3), mRNA |  |
| 10160            | 22808           | 36026          | 0.45              | 9.0E-98                   | AF141325.2            | NT  | Homo sapiens Inositol polyphosphate 1-phosphatase (INPP1) gene, complete cds         |
| 10263            | 23608           | 36886          | 2.63              | 9.0E-98                   | AB023222.1            | NT  | Homo sapiens mRNA for KIAA1005 protein, partial cds                                  |
| 10923            | 23608           | 36887          | 2.63              | 9.0E-98                   | AB023222.1            | NT  | Homo sapiens mRNA for KIAA1005 protein, partial cds                                  |
| 11004            | 23678           | 36882          | 1.39              | 9.0E-98                   | 11418982 NT           | Homo sapiens mitogen-activated protein kinase kinase kinase 7 (MAP3K7), mRNA  |  |
| 11850            | 24434           | 37776          | 1.39              | 9.0E-98                   | AB011541.1            | NT  | Homo sapiens mRNA for MEGF8, partial cds   |
| 11850            | 24434           | 37777          | 1.39              | 9.0E-98                   | AB011541.1            | NT  | Homo sapiens mRNA for MEGF8, partial cds   |
| 1331             | 14039           | 26774          | 0.92              | 8.0E-98                   | AB033768.1            | NT  | Homo sapiens hFAD-cokonyl 0 mRNA for peptidylarginine deiminase type I, complete cds |
| 1719             | 14462           | 27161          | 2.7               | 8.0E-98                   | AB017007.1            | NT  | Homo sapiens PM2SL16 mRNA, partial cds   |
| 1719             | 14462           | 27162          | 2.7               | 8.0E-98                   | AB017007.1            | NT  | Homo sapiens PM2SL16 mRNA, partial cds   |
| 9775             | 16527           | 29166          | 6.89              | 8.0E-98                   | J04469.1              | NT  | Human mitochondrial creatine kinase (CKMT) gene, complete cds                        |
| 5381             | 18772           | 31735          | 0.89              | 5.0E-98                   | BE885873.1            | EST_HUMAN   | 601507503F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:3909097 5'                      |
| 2178             | 14805           | 27638          | 1.14              | 3.0E-98                   | AJ403124.1            | EST_HUMAN   | AJ403124.3 (downregulated in larynx carcinoma) Homo sapiens cDNA clone 18            |
| 2813             | 15324           | 28967          | 0.89              | 3.0E-98                   | AB014607.1            | NT  | Homo sapiens mRNA for KIAA0707 protein, partial cds                                  |
| 2753             | 15458           |                | 2.9               | 3.0E-98                   | AA077498.1            | EST_HUMAN   | 7B18H01 Chromosome 7 Fetal Brain cDNA Library Homo sapiens cDNA clone 7B18H01        |
| 6847             | 18547           | 32576          | 1.9               | 3.0E-98                   | 11418210 NT           | NT  | Homo sapiens activator of S phase kinase (ASK), mRNA                                 |
| 6847             | 18547           | 32577          | 1.9               | 3.0E-98                   | 11418210 NT           | NT  | Homo sapiens activator of S phase kinase (ASK), mRNA                                 |

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 Table 4  
 Single Exon Probes Expressed in Brain

| Probe Seq ID No: | Exon Seq ID No: | ORF Seq ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 8849             | 21341           | 34485          | 2.73              | 3.0E-88                              | H46698.1              | EST_HUMAN               | y017g09.1 Homo sapiens cDNA clone IMAGE:1178240 5'   |
| 9197             | 21898           | 35030          | 0.48              | 3.0E-88                              | 8922086               | NT                      | Homo sapiens uncharacterized bone marrow protein BM039 (BN0039), mRNA  |
| 9783             | 22434           | 36839          | 1.42              | 3.0E-88                              | AJ403124.1            | EST_HUMAN               | AJ403124.3 (downregulated in larynx carcinoma) Homo sapiens cDNA clone 18  |
| 9783             | 22434           | 36840          | 1.42              | 3.0E-88                              | AJ403124.1            | EST_HUMAN               | AJ403124.3 (downregulated in larynx carcinoma) Homo sapiens cDNA clone 18  |
| 10371            | 23017           | 36233          | 0.96              | 3.0E-88                              | BE000454.1            | EST_HUMAN               | 601167388851 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3898517 5'   |
| 10872            | 23552           | 36700          | 4.11              | 3.0E-88                              | U89309.1              | NT                      | Human fumurase precursor (FH) mRNA, nuclear gene encoding mitochondrial protein, complete cds  |
| 11863            | 24447           | 37788          | 1.56              | 3.0E-88                              | I28405.1              | NT                      | Human fumurase precursor (FH) mRNA, complete cds   |
| 12688            | 253262          |                | 1.47              | 3.0E-88                              | BE382518.1            | EST_HUMAN               | 601128785551 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:3828213 5'   |
| 12751            | 25013           |                | 3.56              | 3.0E-88                              | 11418177              | NT                      | Homo sapiens Ran GTPase activating protein 1 (RANGAP1), mRNA   |
| 2071             | 14803           | 27531          | 2.66              | 2.0E-88                              | BE294281.1            | EST_HUMAN               | 60117285871 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:3528134 5'  |
| 2231             | 14859           | 27698          | 1.53              | 2.0E-88                              | AL163202.2            | NT                      | Homo sapiens chromosome 21 segment HS2TC002  |
| 4284             | 17005           | 29837          | 0.8               | 2.0E-88                              | AF032897.1            | NT                      | Homo sapiens potassium channel subunit (HERG-3) mRNA, complete cds   |
| 4308             | 17046           | 28870          | 3.21              | 2.0E-88                              | 4758331               | NT                      | Homo sapiens fatty-acid-Coenzyme A ligase, long-chain 4 (FACL4) mRNA   |
| 4776             | 17508           | 30129          | 1.34              | 2.0E-88                              | AF218802.1            | NT                      | Homo sapiens attractin precursor (ATRN) gene, exon 18  |
| 4776             | 17508           | 30130          | 1.34              | 2.0E-88                              | AF218802.1            | NT                      | Homo sapiens attractin precursor (ATRN) gene, exon 18  |
| 5131             | 17849           | 30468          | 1.39              | 2.0E-88                              | 4758975               | NT                      | Homo sapiens tyrosine kinase 2 beta (PTK2B) mRNA   |
| 5292             | 18097           | 30757          | 4.03              | 2.0E-88                              | 7708612               | NT                      | Homo sapiens PDZ domain-containing glutamine nucleotide exchange factor 1 (LOC51738), mRNA   |
| 6557             | 18822           | 32329          | 1.15              | 2.0E-88                              | 4505788               | NT                      | Homo sapiens phosphatidylinositol 3-kinase, class 2, alpha polypeptide (PI(3C2A)) mRNA   |
| 7523             | 20164           | 33288          | 1.07              | 2.0E-88                              | 11431271              | NT                      | Homo sapiens hypothetical protein FLJ10488 (FLJ10488) mRNA   |
| 7523             | 20164           | 33287          | 1.07              | 2.0E-88                              | 11431271              | NT                      | Homo sapiens hypothetical protein FLJ10488 (FLJ10488) mRNA   |
| 8506             | 21198           | 34342          | 4.94              | 2.0E-88                              | 11428913              | NT                      | Homo sapiens SH3-domain GRB2-like 2 (SH3GL2), mRNA   |
| 8506             | 21198           | 34343          | 4.94              | 2.0E-88                              | 11428913              | NT                      | Homo sapiens SH3-domain GRB2-like 2 (SH3GL2), mRNA   |
| 8591             | 21283           | 34421          | 0.59              | 2.0E-88                              | L76886.1              | NT                      | Homo sapiens NKAT4b mRNA, complete cds   |
| 8591             | 21283           | 34422          | 0.58              | 2.0E-88                              | L76886.1              | NT                      | Homo sapiens NKAT4b mRNA, complete cds   |
| 9437             | 22115           | 35280          | 1.48              | 2.0E-88                              | X12884.1              | NT                      | H. sapiens arginase gene exon 3 (EC 3.5.3.1)   |
| 10313            | 22880           |                | 1.37              | 2.0E-88                              | 7705898               | NT                      | Homo sapiens ALM-1 protein (LOC5151), mRNA   |
| 11155            | 23822           | 37103          | 1.42              | 2.0E-88                              | U22028.1              | NT                      | Human cytochrome P450 (CYP2A13) gene, complete cds   |
| 398              | 13181           | 26829          | 16.4              | 1.0E-88                              | AI882007.1            | EST_HUMAN               | W35004_X1_NQ1_OGAP_UT1 Homo sapiens cDNA clone IMAGE:2281743 3' similar to SW_RL29_HUMAN   |
| 442              | 13228           | 25871          | 2.12              | 1.0E-88                              | AW889811.1            | EST_HUMAN               | P28316_60S RIBOSOMAL PROTEIN L23A ; PMD-BN0085-10300-001-c06 BN0085 Homo sapiens cDNA  |
| 1789             | 14529           | 27237          | 11.24             | 1.0E-88                              | NA4818.1              | EST_HUMAN               | Y2305.1 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:2435855 5' similar to PR-S54204 SP4204 ribosomal protein L28 - human ; |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 5234             | 18040           | 30888          |                   | 3.4                                  | 1.0E-98 AA196854.1    | EST_HUMAN               | Zp98091 Strategene muscle 837209 Homo sapiens cDNA clone IMAGE:628240 5' similar to TR-C806562   |
| 5482             | 18281           | 31178          |                   | 1.1                                  | 1.0E-98 BE390627.1    | EST_HUMAN               | GB06662 NEBULIN; 60128468861 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3806892 5'   |
| 5482             | 18281           | 31179          |                   | 1.1                                  | 1.0E-98 BE390627.1    | EST_HUMAN               | 60128468861 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3806892 5'  |
| 8898             | 21587           | 34728          |                   | 2.7                                  | 1.0E-98 AF141348.1    | NT                      | Homo sapiens beta-tubulin mRNA, complete cds   |
| 8898             | 21587           | 34727          |                   | 2.7                                  | 1.0E-98 AF141348.1    | NT                      | Homo sapiens beta-tubulin mRNA, complete cds   |
| 5728             | 18520           | 31441          |                   | 0.89                                 | 9.0E-89 AI905044.1    | EST_HUMAN               | QV-BT073-191288-012 BT073 Homo sapiens cDNA  |
| 5728             | 18520           | 31442          |                   | 0.88                                 | 9.0E-89 AI905044.1    | EST_HUMAN               | QV-BT073-191288-012 BT073 Homo sapiens cDNA  |
| 5949             | 18731           | 31891          |                   | 4.21                                 | 9.0E-89 AW988635.1    | EST_HUMAN               | EST380711 IMAGE resequences, MACJ Homo sapiens cDNA  |
| 11068            | 23736           | 37009          |                   | 2.75                                 | 9.0E-89 AI479828.1    | EST_HUMAN               | Int6807-21 NCI CGAP_Bm25 Homo sapiens cDNA clone IMAGE:2163421 3' similar to SW_BID_HUMAN  |
| 11068            | 23736           | 37010          |                   | 2.75                                 | 9.0E-89 AI479828.1    | EST_HUMAN               | P55367 BH3 INTERACTING DOMAIN DEATH AGONIST;   |
| 11380            | 23886           | 37288          |                   | 2.13                                 | 9.0E-89 AA134604.1    | EST_HUMAN               | 2780d02-11 Strategene lung carcinoma 837218 Homo sapiens cDNA clone IMAGE:565443 5' similar to TR-G682384 G682384 GPI-ANCHORED PROTEIN P137. ; |
| 88277            | 21319           | 34481          |                   | 1.86                                 | 8.0E-89 88355487      | NT                      | Human endogenous retrovirus, complete genome   |
| 5743             | 18536           | 31458          |                   | 10.03                                | 7.0E-89 AF035808.1    | NT                      | Homo sapiens oscillin (hLn) gene, exon 5   |
| 11610            | 24208           | 37532          |                   | 2.98                                 | 7.0E-89 AF001886.1    | NT                      | Homo sapiens NK-receptor (KIR-G2) gene, linker region exon   |
| 459              | 13244           | 28886          |                   | 1.89                                 | 6.0E-89 U10691.1      | NT                      | Human G2 protein mRNA, partial cds   |
| 3968             | 16618           | 28258          |                   | 1.15                                 | 6.0E-89 AW976384.1    | EST_HUMAN               | EST388473 IMAGE resequences, MAGN Homo sapiens cDNA  |
| 4689             | 17483           | 30084          |                   | 1.21                                 | 6.0E-89 4502680       | NT                      | Hom sapiens C1034 antigen (CD34) mRNA  |
| 6503             | 19268           | 32270          |                   | 0.72                                 | 6.0E-89 7706136       | NT                      | Hom sapiens GAP-like protein (LOC513083) mRNA  |
| 6878             | 16341           | 32254          |                   | 1.01                                 | 6.0E-89 L43610.1      | NT                      | Hom sapiens polycystic kidney disease (PKD1) gene, exons 27-30   |
| 8003             | 20698           | 33826          |                   | 1.18                                 | 6.0E-89 X99101.1      | NT                      | Hom sapiens estrogen receptor  |
| 8022             | 20717           | 33849          |                   | 0.53                                 | 6.0E-89 6801889       | NT                      | Hom sapiens arylin-like with transmembrane domains 1 (ANKTM1), mRNA  |
| 8863             | 21355           | 34502          |                   | 2.28                                 | 6.0E-89 AB036429.1    | NT                      | Hom sapiens NDST4 mRNA for N-deacetylase/N-sulfotransferase 4, complete cds  |
| 8762             | 21454           | 34602          |                   | 3.33                                 | 6.0E-89 AF080255.1    | NT                      | Hom sapiens lecstar protein mRNA, complete cds   |
| 8762             | 21454           | 34603          |                   | 3.33                                 | 6.0E-89 AF080255.1    | NT                      | Hom sapiens lecstar protein mRNA, complete cds   |
| 8821             | 21513           | 34687          |                   | 0.6                                  | 6.0E-89 11431984      | NT                      | Hom sapiens Inositol 1,4,5-triphosphate receptor, type 1 (ITPR1), mRNA   |
| 8821             | 21513           | 34688          |                   | 0.6                                  | 6.0E-89 11431984      | NT                      | Hom sapiens Inositol 1,4,5-triphosphate receptor, type 1 (ITPR1), mRNA   |
| 10620            | 23313           | 36553          |                   | 3.89                                 | 6.0E-89 11626289      | NT                      | Hom sapiens BH3 interacting domain death agonist (BD), mRNA  |
| 11433            | 23200           | 38431          |                   | 2.01                                 | 6.0E-89 8810279       | NT                      | Hom sapiens UDP-glucosidase/glycoprotein glucosidase/glycoprotein glucosidase mRNA   |
| 11433            | 23200           | 38432          |                   | 2.01                                 | 6.0E-89 8810279       | NT                      | Hom sapiens UDP-glucosidase/glycoprotein glucosidase mRNA  |

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Table 4

Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLASTE Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|-------------------------------------|-----------------------|-------------------------|--|
| 1957             | 14693           | 27406          | 1.38              | 5.0E-99                             | Y11985.1              | NT                      | H.sapiens IMPA gene, exon 8  |
| 4526             | 17261           | 29895          | 1.56              | 5.0E-99                             | AF009869.1            | NT                      | Homo sapiens T cell receptor beta locus, TCRBV12S2 region  |
| 12208            | 24674           |                | 2.81              | 5.0E-99                             | BE890177.1            | EST_HUMAN               | 607513157 T1 NIH_NGC_71 Homo sapiens cDNA clone IMAGE:3914391 5'   |
| 8220             | 20914           |                | 4.88              | 3.0E-99                             | M85598.1              | NT                      | Human E2A/HLF fusion protein (E2AHLF) mRNA, complete cds   |
| 1217             | 13968           |                | 6.88              | 2.0E-99                             | AW274792.1            | EST_HUMAN               | xp08603x1 NC1 CGAP_HN9 Homo sapiens cDNA clone IMAGE:2738874 3' similar to gb:M37212 MYOSIN LIGHT CHAIN ALKALI, NON-MUSCLE ISOFORM (HUMAN);  |
| 3253             | 16015           | 29898          | 1.29              | 2.0E-99                             | M30898.1              | NT                      | Human Ku (p70/p80) subunit mRNA, complete cds  |
| 4506             | 17241           | 28874          | 1.04              | 2.0E-99                             | AF095703.1            | NT                      | Hom sapiens short chain L-3-hydroxyacyl-CoA dehydrogenase precursor (HADHSC) gene, nuclear gene encoding mitochondrial protein, complete cds |
| 7574             | 20243           | 33348          | 0.58              | 2.0E-99                             | AF257737.1            | NT                      | Hom sapiens dietary dynein heavy chain 9 (DNAH9) mRNA, complete cds  |
| 8808             | 21300           | 34444          | 9.55              | 2.0E-99                             | W23507.1              | EST_HUMAN               | zb4ed08.1  Scarec faced lung NHL19W Homo sapiens cDNA clone IMAGE:3086335 5' similar to dbM15182 BET-A GLUCURONIDASE PRECURSOR (HUMAN);      |
| 9050             | 21739           | 34897          | 0.76              | 2.0E-99                             | R78254.1              | EST_HUMAN               | yB109.1  Scarec placenta Nb2HP Homo sapiens cDNA clone IMAGE:1456265 5'  |
| 11049            | 23719           | 38890          | 3.39              | 2.0E-99                             | AF247457.2            | NT                      | Hom sapiens myosin X (MYO10) mRNA, complete cds  |
| 11788            | 24378           | 37708          | 1.46              | 2.0E-99                             | 10883960              | NT                      | Hom sapiens potassium channel, subfamily K, member 10 (KCNA10), mRNA   |
| 307              | 13111           | 25761          | 1.63              | 1.0E-99                             | AF111448.1            | NT                      | Hom sapiens Intersectin long isoform (ITSN) mRNA, complete cds   |
| 370              | 13166           | 25809          | 1.02              | 1.0E-99                             | 11526150              | NT                      | Hom sapiens GABA-binding protein transcription factor, alpha subunit (GABPA), mRNA   |
| 1400             | 14147           | 26828          | 2.09              | 1.0E-99                             | M30898.1              | NT                      | Human Ku (p70/p80) subunit mRNA, complete cds  |
| 1649             | 14285           | 26931          | 2.84              | 1.0E-99                             | AF192623.1            | NT                      | Hom sapiens truncated Niemann-Pick C3 protein (NPC3) mRNA, complete cds  |
| 1549             | 14285           | 26982          | 2.04              | 1.0E-99                             | AF192523.1            | NT                      | Hom sapiens truncated Niemann-Pick C3 protein (NPC3) mRNA, complete cds  |
| 1920             | 14657           | 27357          | 1.41              | 1.0E-99                             | 4503730               | NT                      | Hom sapiens FK506-binding protein 6 (FKBP6) mRNA, and translated products  |
| 1920             | 14657           | 27368          | 1.41              | 1.0E-99                             | 4503730               | NT                      | Hom sapiens FK506-binding protein 6 (FKBP6) mRNA, and translated products  |
| 3083             | 15848           | 28489          | 1.36              | 1.0E-99                             | J03171.1              | NT                      | Human Interferon-alpha receptor (HuIFN-alpha-Rec) mRNA, complete cds   |
| 4347             | 17086           | 29715          | 2.82              | 1.0E-99                             | AF098918.1            | NT                      | Hom sapiens fatty acid amide hydrolase (FAAH) gene, exon 14  |
| 4347             | 17086           | 29716          | 2.82              | 1.0E-99                             | AF098918.1            | NT                      | Hom sapiens fatty acid amide hydrolase (FAAH) gene, exon 14  |
| 5658             | 18453           | 31367          | 0.68              | 1.0E-99                             | 7632349               | NT                      | Hom sapiens cell recognition molecule Casp2 (KIAA0868), mRNA   |
| 6707             | 19622           | 32685          | 1.28              | 1.0E-99                             | 11421007              | NT                      | Hom sapiens ghrelin receptor, alpha 2 (GRLA2), mRNA  |
| 6707             | 19622           | 32688          | 1.28              | 1.0E-99                             | 11421007              | NT                      | Hom sapiens ghrelin receptor, alpha 2 (GRLA2), mRNA  |
| 7039             | 25104           | 32769          | 0.76              | 1.0E-99                             | X98022.1              | NT                      | H.sapiens E6-AP gene exon 2  |
| 9089             | 21787           |                | 1.49              | 1.0E-99                             | 11419721              | NT                      | Hom sapiens ALEX1 protein (LOC51308), mRNA   |
| 9420             | 22098           | 35270          | 1.71              | 1.0E-99                             | AW340174.1            | EST_HUMAN               | hd02h02x1 Scarec NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2808871 3' similar to TR-O02711 PRO-POU-DUTPASE POLYPROTEIN ;                    |
| 11084            | 23754           | 37029          | 2.01              | 1.0E-99                             | 7427514               | NT                      | Hom sapiens huntingtin interacting protein 1 (HIP1), mRNA  |
| 11084            | 23754           | 37030          | 2.01              | 1.0E-99                             | 7427514               | NT                      | Hom sapiens huntingtin interacting protein 1 (HIP1), mRNA  |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 11141            | 23808           | 37098          | 1.8               | 1.0E-89                              | 5801979               | NT                      | Homo sapiens heat shock transcription factor 2 binding protein (HSF2BP), mRNA  |
| 11350            | 24040           | 37343          | 2.77              | 1.0E-89                              | AB023222.1            | NT                      | Homo sapiens mRNA for KIAA1005 protein, partial cds  |
| 11984            | 24525           |                | 6.88              | 1.0E-89                              | AF240789.1            | NT                      | Homo sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1) genes, complete cds   |
| 1                | 12830           | 25443          | 0.95              | 1.0E-100                             | AL163247.2            | NT                      | Homo sapiens chromosome 21 segment HS21C047  |
| 2                | 12830           | 25443          | 1.53              | 1.0E-100                             | AL163247.2            | NT                      | Homo sapiens chromosome 21 segment HS21C047  |
| 68               | 12894           | 25526          | 1.54              | 1.0E-100                             | 11418230              | NT                      | Homo sapiens Testis-specific XX-related protein on Y (XRY), mRNA   |
| 68               | 12894           | 25527          | 1.54              | 1.0E-100                             | 11418230              | NT                      | Homo sapiens Testis-specific XX-related protein on Y (XRY), mRNA   |
| 85               | 12911           | 25550          | 0.69              | 1.0E-100                             | AW275237.1            | EST_HUMAN               | X78511_X1_NCI_OGAP_Bm63_Homo sapiens cDNA clone IMAGE:2824605 3'   |
| 165              | 12879           | 25618          | 1.24              | 1.0E-100                             | AL163206.2            | NT                      | Homo sapiens chromosome 21 segment HS21C038  |
| 309              | 13113           | 25753          | 0.83              | 1.0E-100                             | AL163249.2            | NT                      | Homo sapiens chromosome 21 segment HS21C049  |
| 334              | 13135           | 25770          | 3.06              | 1.0E-100                             | T05087.1              | EST_HUMAN               | EST02875 Fetal brain, Strategic (cat#K336205) Homo sapiens cDNA clone HFB03R32   |
| 427              | 13213           |                | 1.28              | 1.0E-100                             | AF033528.1            | NT                      | Homo sapiens X-linked arthritrophic ectodermal dysplasia protein gene (EDA), exon 2 and flanking repeat regions  |
| 477              | 13263           |                | 7.19              | 1.0E-100                             | X88581.1              | NT                      | G.parvula DNA for ZNF80 gene homolog   |
| 498              | 13280           | 26916          | 1.33              | 1.0E-100                             | BE180609.1            | EST_HUMAN               | RC3-H10623-046500-022-b09 HT00825 Homo sapiens cDNA  |
| 998              | 13758           | 28418          | 3.22              | 1.0E-100                             | 76811685              | NT                      | Homo sapiens DKFZP588M0122 protein (DKFZP588M0122), mRNA   |
| 998              | 13758           | 28419          | 3.22              | 1.0E-100                             | 76811685              | NT                      | Homo sapiens DKFZP588M0122 protein (DKFZP588M0122), mRNA   |
| 1415             | 14163           | 26846          | 3.14              | 1.0E-100                             | BF530735.1            | EST_HUMAN               | 602072064-F1_NCI_OGAP_Bm67_Homo sapiens cDNA clone IMAGE:4215039 5'  |
| 1538             | 14285           |                | 1.14              | 1.0E-100                             | AV207555.1            | EST_HUMAN               | UH-B11-afk-<07-0-U1.s1 NG_CGAP_Sub3 Homo sapiens cDNA clone IMAGE:1754633 3' similar to SW.CYT_COTJA qf8209_X1_Soares_teles_NHT_Homo sapiens cDNA clone IMAGE:1754633 3' |
| 1543             | 14289           | 26978          | 1.81              | 1.0E-100                             | AI200857.1            | EST_HUMAN               | P81081 CYSTATIN;   |
| 1886             | 14594           | 27309          | 1.41              | 1.0E-100                             | AB032984.1            | NT                      | Homo sapiens myobutulin-related protein 1a mRNA, partial cds   |
| 2228             | 14986           |                | 1.39              | 1.0E-100                             | D88349.1              | NT                      | Rat mRNA for short type PB-adherin, complete cds   |
| 2439             | 15169           | 27894          | 1.33              | 1.0E-100                             | X622468.1             | NT                      | H.sapiens mRNA for IFN-gamma (pKC-Q)   |
| 2710             | 15417           | 28165          | 2.36              | 1.0E-100                             | 11418976              | NT                      | Homo sapiens KIAA0357 protein (KIAA0357), mRNA   |
| 3018             | 15784           |                | 5.5               | 1.0E-100                             | D11078.1              | NT                      | Homo sapiens retrovirus-like element   |
| 4186             | 16927           | 28558          | 1.52              | 1.0E-100                             | AF057354.1            | NT                      | Homo sapiens myobutulin-related protein 1a mRNA, partial cds   |
| 4211             | 16952           | 28576          | 2.14              | 1.0E-100                             | 4503782               | NT                      | Homo sapiens follicle stimulating hormone receptor (FSHR) mRNA, complete cds   |
| 4418             | 17154           | 28785          | 1.03              | 1.0E-100                             | AF036943.1            | NT                      | Homo sapiens myelin transcription factor 1-like (MT1-I) mRNA, complete cds   |
| 6031             | 17751           | 30362          | 2.68              | 1.0E-100                             | 5032104               | NT                      | Homo sapiens small optic lobes (Drosophila) homolog (SOLH) mRNA  |
| 5031             | 17751           | 30363          | 2.68              | 1.0E-100                             | 5032104               | NT                      | Homo sapiens small optic lobes (Drosophila) homolog (SOLH) mRNA  |
| 5207             | 18015           | 30637          | 1.62              | 1.0E-100                             | BF244218.1            | EST_HUMAN               | 801863164F1 NIH_MGC_57 Homo sapiens cDNA clone IMAGE:4080099 5'  |

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**Table 4**

**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--------------------|
| 5421             | 18220           | 30831          | 0.59              | 1.0E-100 AW0759883.1                 | EST_HUMAN             | EST201_x1 NCI_CGAP_CMI_1 Homo sapiens cDNA clone IMAGE:2573305 3' similar to gb:X12433                                 |                    |
| 5614             | 18410           | 31323          | 1.33              | 1.0E-100 AU118182.1                  | EST_HUMAN             | PROTEIN PHP51-2 (HUMAN); AU118182 HEMBA1 Homo sapiens cDNA clone HEMBA1003046 5'                                       |                    |
| 5660             | 18455           | 31369          | 1.28              | 1.0E-100 AF135116.1                  | NT                    | Homo sapiens NF-E2-related factor 3 gene, complete cds   |                    |
| 5747             | 18539           | 31461          | 0.8               | 1.0E-100 X14690.1                    | NT                    | Human mRNA for plasma inter-alpha-trypsin inhibitor heavy chain H(3)   |                    |
| 6071             | 18850           | 31814          | 0.94              | 1.0E-100 4557568                     | NT                    | Homo sapiens EFR to nucleus signalling 1 (EFRN1) mRNA  |                    |
| 6071             | 18850           | 31815          | 0.94              | 1.0E-100 4557568                     | NT                    | Homo sapiens EFR to nucleus signalling 1 (EFRN1) mRNA  |                    |
| 6343             | 19113           |                | 1.87              | 1.0E-100 5728987                     | NT                    | Homo sapiens hec domain and RLD 2 (HERC2), mRNA  |                    |
| 6405             | 19174           | 32173          | 5.84              | 1.0E-100 AU140214.1                  | EST_HUMAN             | AU140214 PLACE2 Homo sapiens cDNA clone PLACE2000137 5'  |                    |
| 6457             | 19224           | 32224          | 1.97              | 1.0E-100 AU136890.1                  | EST_HUMAN             | AU136890 PLACE1 Homo sapiens cDNA clone PLACE1005089 5'  |                    |
| 6586             | 18349           | 32382          | 1.97              | 1.0E-100 R10887.1                    | EST_HUMAN             | y38c08.s1 Soares fatal liver spleen INF1S Homo sapiens cDNA clone IMAGE:129134 3'                                      |                    |
| 6670             | 19587           | 32622          | 0.9               | 1.0E-100 7382479                     | NT                    | Homo sapiens Rho GTPase activating protein 6 (ARHGAP6), transcript variant 4, mRNA                                     |                    |
| 6742             | 18678           | 32808          | 1.19              | 1.0E-100 AA498841.1                  | EST_HUMAN             | 8833b06.11 Gasser Wilms tumor Homo sapiens cDNA clone IMAGE:897597 5' similar to TR:GA87418                            |                    |
| 6742             | 18676           | 32809          | 1.19              | 1.0E-100 AA498841.1                  | EST_HUMAN             | G487418 ACTIN FILAMENT-ASSOCIATED PROTEIN 1  |                    |
| 6785             | 18630           | 32557          | 1.13              | 1.0E-100 BF376478.1                  | EST_HUMAN             | 8833b06.11 Gasser Wilms tumor Homo sapiens cDNA MR1-TN0048-086900-004-505 TN0048                                       |                    |
| 6786             | 18630           | 32558          | 1.13              | 1.0E-100 BF376478.1                  | EST_HUMAN             | Homo sapiens cDNA MR1-TN0048-086900-004-505 TN0048   |                    |
| 6783             | 18537           | 32565          | 6.76              | 1.0E-100 X04571.1                    | NT                    | Human mRNA for kidney epithelial growth factor (EGF) precursor   |                    |
| 8430             | 21123           | 34261          | 7.17              | 1.0E-100 BF103853.1                  | EST_HUMAN             | 601647357F1 NIH MGC_61 Homo sapiens cDNA clone IMAGE:3831310 5'  |                    |
| 8466             | 21168           |                | 4.8               | 1.0E-100 AL163203.2                  | NT                    | Human sapiens chromosome 21 segment HS21 C03   |                    |
| 8812             | 21603           | 34746          | 0.68              | 1.0E-100 AU116891.1                  | EST_HUMAN             | AU116891 HEMBA1 Homo sapiens cDNA clone HEMBA1000343 5'  |                    |
| 8812             | 21603           | 34747          | 0.68              | 1.0E-100 AU116891.1                  | EST_HUMAN             | AU116891 HEMBA1 Homo sapiens cDNA clone HEMBA1000343 5'  |                    |
| 9132             | 21820           | 34886          | 3.62              | 1.0E-100 AB040818.1                  | NT                    | Homo sapiens mRNA for KIAA1485 protein, partial cds  |                    |
| 9210             | 22089           |                | 2.78              | 1.0E-100 AB72388.1                   | EST_HUMAN             | W37009_x1 NCI_CGAP_P728 Homo sapiens cDNA clone IMAGE:2488920 3' similar to contains element MER22 repetitive element; |                    |
| 9333             | 20404           | 33520          | 1.82              | 1.0E-100 AW988611.1                  | EST_HUMAN             | PM0-BND086-100300-001-008 BN0085 Homo sapiens cDNA   |                    |
| 8388             | 22048           |                | 7.61              | 1.0E-100 AU127720.1                  | EST_HUMAN             | AU127720 NT2RP2 Homo sapiens cDNA clone NT2RP2001918 5'  |                    |
| 9483             | 22136           | 35316          | 2.11              | 1.0E-100 AB046846.1                  | NT                    | Homo sapiens mRNA for KIAA1628 protein, partial cds  |                    |
| 9483             | 22136           | 35317          | 2.11              | 1.0E-100 AB046846.1                  | NT                    | Homo sapiens mRNA for KIAA1628 protein, partial cds  |                    |
| 9743             | 22394           | 35598          | 1.68              | 1.0E-100 AW630487.1                  | EST_HUMAN             | hh88c11.y1 NCI_CGAP_GU1 Homo sapiens cDNA clone IMAGE:2866396 5'   |                    |
| 9743             | 22394           | 35599          | 1.68              | 1.0E-100 AW630487.1                  | EST_HUMAN             | hh88c11.y1 NCI_CGAP_GU1 Homo sapiens cDNA clone IMAGE:2866396 5'   |                    |
| 9805             | 22554           | 35749          | 0.49              | 1.0E-100 AV732101.1                  | EST_HUMAN             | AV732101 HTF Homo sapiens cDNA clone HTFBIG01 5'   |                    |
| 10368            | 23014           | 36230          | 1.47              | 1.0E-100 BF37518.1                   | EST_HUMAN             | 602020554F1 NCI_CGAP_Bm07 Homo sapiens cDNA clone IMAGE:4156165 5'   |                    |

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 Table 4  
 Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 10458            | 23104           |                | 2.2               | 1.0E-100                             | Y10391.1              | NT                      | Human endogenous retrovirus HERV-K, pol gene   |
| 10658            | 23349           | 36589          | 6.27              | 1.0E-100                             | BF327282.1            | EST_HUMAN               | MR0-BN0070-270300-008-h11 Homo sapiens cDNA  |
| 11326            | 24017           | 37319          | 4.52              | 1.0E-100                             | AF111170.3            | NT                      | Homo sapiens 14q32 Jpegged2 gene, complete cds; and unknown gene   |
| 11328            | 24017           | 37320          | 4.52              | 1.0E-100                             | AF111170.3            | NT                      | Homo sapiens 14q32 Jpegged2 gene, complete cds; and unknown gene   |
| 11358            | 12830           | 25443          | 2.11              | 1.0E-100                             | AL163247.2            | NT                      | Homo sapiens chromosome 21 segment HS21C047  |
| 11633            | 24230           |                | 1.58              | 1.0E-100                             | AW875464.1            | EST_HUMAN               | QV2-P10012-010300-070-044 P10012 Homo sapiens cDNA   |
| 11681            | 24276           |                | 1.48              | 1.0E-100                             | AF288285.1            | NT                      | Homo sapiens gaigin-like protein (GLP) gene, complete cds  |
| 11749            | 24340           | 37688          | 1.57              | 1.0E-100                             | AA115805.1            | EST_HUMAN               | Zk88a03.71 Scores, pregnant uterus NbHPU Homo sapiens cDNA clone IMAGE:4898864 5'  |
| 11749            | 24340           | 37689          | 1.57              | 1.0E-100                             | AA115805.1            | EST_HUMAN               | Zk88a03.71 Scores, pregnant uterus NbHPU Homo sapiens cDNA clone IMAGE:4898864 5'  |
| 11907            | 24471           | 37806          | 6.67              | 1.0E-100                             | AF240788.1            | NT                      | Homo sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1) genes, complete cds |
| 12031            | 25278           |                | 1.51              | 1.0E-100                             | BF446549.1            | EST_HUMAN               | Zq88a03.x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3' similar to TR-021897 Q2:1987 COSMID R151. [2] TR-Q8QUA08 ;     |
| 12220            | 24668           | 31071          | 3.67              | 1.0E-100                             | 11545792              | NT                      | Homo sapiens SH3-domain binding protein 1 (SH3BP1), mRNA   |
| 12792            | 25044           | 30988          | 4.62              | 1.0E-100                             | 11417974              | NT                      | Homo sapiens transcobalamin I; macrocytic anemia (TCN2), mRNA  |
| 75               | 12902           | 25539          | 1.75              | 1.0E-101                             | 7110714               | NT                      | Homo sapiens SEC14 (S. cerevisiae)-like 2 (SEC14L2), mRNA  |
| 75               | 12902           | 25540          | 1.76              | 1.0E-101                             | 7110714               | NT                      | Homo sapiens SEC14 (S. cerevisiae)-like 2 (SEC14L2), mRNA  |
| 671              | 13447           | 26087          | 1.62              | 1.0E-101                             | AB007815.2            | NT                      | Homo sapiens mRNA for KIAAD446 protein, partial cds  |
| 688              | 13463           | 26111          | 5.88              | 1.0E-101                             | 7110734               | NT                      | Homo sapiens ventral anterior homeobox 2 (VAX2), mRNA  |
| 688              | 13463           | 26112          | 6.88              | 1.0E-101                             | 7110734               | NT                      | Homo sapiens ventral anterior homeobox 2 (VAX2), mRNA  |
| 754              | 13526           | 26185          | 1.89              | 1.0E-101                             | 7657454               | NT                      | Human pescadillo (zebrafish) homolog 1, containing BRCT domain (PES1), mRNA  |
| 833              | 13603           | 26273          | 1.6               | 1.0E-101                             | 4503914               | NT                      | Homo sapiens phosphoribosylglycinamide synthetase (GART) mRNA, phosphoribosylhomocitrate synthetase                      |
| 904              | 13671           | 26335          | 1.22              | 1.0E-101                             | ZZ20856.1             | NT                      | Homo sapiens of cardiac alpha-myosin heavy chain gene  |
| 884              | 13729           | 26396          | 14.28             | 1.0E-101                             | BF881218.1            | EST_HUMAN               | 602156474F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE:4297291 5'  |
| 1030             | 13790           | 26446          | 1.63              | 1.0E-101                             | AL221878.1            | EST_HUMAN               | 0958609-x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:1B43336 3'  |
| 1577             | 14324           | 27012          | 1.48              | 1.0E-101                             | 5921480               | NT                      | Homo sapiens butyrophilin, subfamily 2, member A1 (BTN2A1), mRNA   |
| 1577             | 14324           | 27013          | 1.48              | 1.0E-101                             | 5921480               | NT                      | Homo sapiens butyrophilin, subfamily 2, member A1 (BTN2A1), mRNA   |
| 1740             | 14482           | 27182          | 1.52              | 1.0E-101                             | 7682183               | NT                      | Homo sapiens KIAA05659 gene product (KIAA05659), mRNA  |
| 1740             | 14482           | 27183          | 1.52              | 1.0E-101                             | 7682183               | NT                      | Homo sapiens KIAA05659 gene product (KIAA05659), mRNA  |
| 1698             | 14673           | 27389          | 1.62              | 1.0E-101                             | 4502988               | NT                      | Homo sapiens carboxypeptidase A1 (pancreatic) (CPA1) mRNA  |
| 2050             | 14783           | 27510          | 1.79              | 1.0E-101                             | BEB43070.1            | EST_HUMAN               | RC3-ST0281-1-60680-016-h09 ST0281 Homo sapiens cDNA  |
| 2349             | 15592           | 27808          | 1.71              | 1.0E-101                             | 5728882               | NT                      | Homo sapiens A kinase (PRKA) anchor protein 6 (AKAP6), mRNA  |
| 2620             | 15332           | 28076          | 2.8               | 1.0E-101                             | X72593.1              | NT                      | H.sapiens EWS gene, exon 5   |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO. | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 2747             | 15452           | 28192          | 1.09              | 1.0E-101                             | AJ237744.1            | NT                      | Homo sapiens RIBIR gene (partial), exon 12  |
| 2747             | 15452           | 28193          | 1.09              | 1.0E-101                             | AJ237744.1            | NT                      | Homo sapiens RIBIR gene (partial), exon 12  |
| 2855             | 15721           |                | 13.73             | 1.0E-101                             | AJ262312.1            | NT                      | Homo sapiens genomic downstream Rhesus box  |
| 3198             | 15981           | 28613          | 1.98              | 1.0E-101                             | 4885270               | NT                      | Homo sapiens gamma-glutamyltransferase 1 (GGT1) mRNA  |
| 3235             | 15987           |                | 2.27              | 1.0E-101                             | BF035327.1            | EST_HUMAN               | 601458531F1 NIH_MGC_88 Homo sapiens cDNA clone IMAGE:3882088 5'   |
| 3375             | 16134           | 28790          | 1.83              | 1.0E-101                             | AV985556.1            | EST_HUMAN               | EST1377620 MAGE: resquences, MAGI Homo sapiens cDNA   |
| 3396             | 16452           | 28192          | 1.49              | 1.0E-101                             | AJ237744.1            | NT                      | Homo sapiens RIBIR gene (partial), exon 12  |
| 3395             | 15452           | 28193          | 1.49              | 1.0E-101                             | AJ237744.1            | NT                      | Homo sapiens RIBIR gene (partial), exon 12  |
| 3857             | 16607           | 28246          | 3.69              | 1.0E-101                             | AB022785.1            | NT                      | Homo sapiens ASH2L gene, complete cds, similar to Drosophila ash2 gene  |
| 4874             | 17587           | 30304          | 1.16              | 1.0E-101                             | 5821460               | NT                      | Homo sapiens butyrophilin, subfamily 2, member A1 (BTN2A1), mRNA  |
| 4874             | 17587           | 30305          | 1.16              | 1.0E-101                             | 5821460               | NT                      | Homo sapiens butyrophilin, subfamily 2, member A1 (BTN2A1), mRNA  |
| 5225             | 18041           | 30669          | 1.22              | 1.0E-101                             | AV985139.1            | EST_HUMAN               | EST1377212 MAGE: resquences, MAGI Homo sapiens cDNA   |
| 5913             | 18698           | 31651          | 3.68              | 1.0E-101                             | 7427512               | NT                      | Homo sapiens cytoplasmic linker 2 (CYLN2), mRNA   |
| 5913             | 18698           | 31652          | 3.68              | 1.0E-101                             | 7427512               | NT                      | Homo sapiens cytoplasmic linker 2 (CYLN2), mRNA   |
| 6835             | 18258           | 32372          | 1.27              | 1.0E-101                             | 11430734              | NT                      | Homo sapiens carbonic anhydrase VII (CA7), mRNA   |
| 7173             | 18659           |                | 1.01              | 1.0E-101                             | 11545780              | NT                      | Homo sapiens hypothetical protein FLJ22087 (FLJ22087), mRNA   |
| 7220             | 18605           | 32877          | 5.67              | 1.0E-101                             | AF208970.1            | NT                      | Homo sapiens Kruppel-type zinc finger protein (PEG3) mRNA, alternative splice form 4, partial cds   |
| 7220             | 18605           | 32878          | 5.57              | 1.0E-101                             | AF208970.1            | NT                      | Homo sapiens Kruppel-type zinc finger protein (PEG3) mRNA, alternative splice form 4, partial cds   |
| 7376             | 20058           | 33138          | 7.48              | 1.0E-101                             | AW008476.1            | EST_HUMAN               | w5512.X1 NCI_CGAP_Cas4H Homo sapiens cDNA clone IMAGE:2343497 3'  |
| 7474             | 20147           |                | 1.78              | 1.0E-101                             | BE257384.1            | EST_HUMAN               | 601108217F1 NIH_MGC_181 Homo sapiens cDNA clone IMAGE:3349801 5'  |
| 7623             | 20286           | 33398          | 7.43              | 1.0E-101                             | BF330759.1            | EST_HUMAN               | RCT-B1T0313-220700-018-f12B1T0313 Homo sapiens cDNA   |
| 7813             | 20508           | 33631          | 0.84              | 1.0E-101                             | BE276821.1            | EST_HUMAN               | 601121621F1 NIH_MGC_201 Homo sapiens cDNA clone IMAGE:3345869 5'  |
| 7813             | 20508           | 33632          | 0.84              | 1.0E-101                             | BE275821.1            | EST_HUMAN               | 601121621F1 NIH_MGC_201 Homo sapiens cDNA clone IMAGE:3345869 5'  |
| 7854             | 20649           | 33772          | 2.88              | 1.0E-101                             | BR029174.1            | EST_HUMAN               | 60117646388F1 NIH_MGC_831 Homo sapiens cDNA clone IMAGE:3388837 5'  |
| 8221             | 20915           | 34051          | 0.67              | 1.0E-101                             | AV630070.1            | EST_HUMAN               | hh74910.Y1 NCI_OGAP_GU1 Homo sapiens cDNA clone IMAGE:2868578 5' similar to gb:J03143   |
| 8221             | 20915           | 34050          | 0.67              | 1.0E-101                             | AV630070.1            | EST_HUMAN               | INTERFERON-GAMMA RECEPTOR ALPHA CHAIN PRECURSOR (HUMAN)   |
| 8908             | 21689           | 34741          | 1.08              | 1.0E-101                             | AA036800.1            | EST_HUMAN               | ZC28308.11 Scaree_pregnant uterus_Nb1-TPU_Homo sapiens cDNA clone IMAGE:471888 5' similar to PIR-S54840 S54840 YD5335.03c protein - yeast ; |
| 9229             | 21608           | 35080          | 0.83              | 1.0E-101                             | AB037722.1            | NT                      | Homo sapiens mRNA for KIAA1351 protein, partial cds   |
| 9229             | 21608           | 35081          | 0.83              | 1.0E-101                             | AB037722.1            | NT                      | Homo sapiens mRNA for KIAA1351 protein, partial cds   |
| 8382             | 20432           | 33553          | 17.13             | 1.0E-101                             | X60069.1              | NT                      | Human mRNA for pancreatic gamma-glutamyltransferase   |
| 8382             | 20432           | 33554          | 17.13             | 1.0E-101                             | X60069.1              | NT                      | Human mRNA for pancreatic gamma-glutamyltransferase   |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 8375 21850       | 35123           |                | 17.01             | 1.0E-101                             | 9845462               | NT                      | Homo sapiens gamma-dihydroxyacetone kinase 1 (GGT1), transcript variant 3, mRNA  |
| 9657 22309       | 35506           |                | 6.24              | 1.0E-101                             | BE619887.1            | EST_HUMAN               | 601472808T1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE_38756953 3'   |
| 9857 22209       | 35507           |                | 6.24              | 1.0E-101                             | BE619887.1            | EST_HUMAN               | 601472808T1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE_38756953 3'   |
| 9794 22445       | 36850           |                | 0.72              | 1.0E-101                             | 108633960             | NT                      | Homo sapiens potassium channel, subfamily K, member 10 (KCNK10), mRNA  |
| 10308 22855      | 36171           |                | 1.49              | 1.0E-101                             | 114281127             | NT                      | Homo sapiens Janus kinase 2 (a protein tyrosine kinase) (JAK2), mRNA   |
| 10447 23093      | 36323           |                | 0.94              | 1.0E-101                             | BE973648.1            | EST_HUMAN               | 601680825F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE_38650887 5'   |
| 10447 23093      | 36324           |                | 0.94              | 1.0E-101                             | BE973648.1            | EST_HUMAN               | 601680825F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE_38650887 5'<br>branched-chain alpha-keto acid dehydrogenase complex E1 alpha subunit [Human, Genomic, 16S mt, segment 8 of 9] |
| 10788 23471      | 36713           |                | 1.88              | 1.0E-101                             | S28327.1              | NT                      | Homo sapiens mRNA for KIAA0819 protein, partial cds  |
| 11053 23723      | 36894           |                | 2.11              | 1.0E-101                             | AB020626.1            | NT                      | Im58c01_x1 NCI CGAP_Bm25 Homo sapiens cDNA clone IMAGE_2162304 3' similar to gb:M13381   |
| 11398 24004      | 37307           |                | 2.06              | 1.0E-101                             | AI580078.1            | EST_HUMAN               | HEPARIN-BINDING GROWTH FACTOR PRECURSOR 1 (HUMAN); tm58c01_x1 NCI CGAP_Bm25 Homo sapiens cDNA clone IMAGE_2162304 3' similar to gb:M13381  |
| 11398 24004      | 37308           |                | 2.06              | 1.0E-101                             | AI580078.1            | EST_HUMAN               | HEPARIN-BINDING GROWTH FACTOR PRECURSOR 1 (HUMAN); RC-BT163-280489-085 BT163 Homo sapiens cDNA   |
| 11763 24354      | 37688           |                | 1.31              | 1.0E-101                             | AB08168.1             | EST_HUMAN               | RC-BT163-280489-085 BT163 Homo sapiens cDNA  |
| 11763 24354      | 37687           |                | 1.31              | 1.0E-101                             | AI808168.1            | EST_HUMAN               | DT0088 Homo sapiens cDNA   |
| 12461 24829      |                 |                | 13.68             | 1.0E-101                             | AW839051.1            | EST_HUMAN               | QV1-D70068-240200-085-401 Homo sapiens cDNA, complete cds  |
| 38 12866         | 25485           |                | 2                 | 1.0E-102                             | AF012872.1            | NT                      | Homo sapiens phosphatidylthiotidyl transferase 2 (facilitated glucose transporter), member 9 (SLC24A9), mRNA   |
| 332 13133        | 25767           |                | 4.35              | 1.0E-102                             | AL163303.2            | NT                      | Homo sapiens chromosome 21 segment HS21C103  |
| 768 13530        | 26180           |                | 1.59              | 1.0E-102                             | 4557534               | NT                      | Homo sapiens down-regulated in adenoma (DRA) mRNA  |
| 1095 13853       | 26512           |                | 2.8               | 1.0E-102                             | M10876.1              | NT                      | Human endogenous retroviral DNA (4-1), complete retroviral segment   |
| 1245 13984       | 26660           |                | 1.67              | 1.0E-102                             | 11427148              | NT                      | Homo sapiens solute carrier family 2 (facilitated glucose transporter), member 9 (SLC24A9), mRNA   |
| 1246 13984       | 26661           |                | 1.67              | 1.0E-102                             | 11427148              | NT                      | Homo sapiens solute carrier family 2 (facilitated glucose transporter), member 9 (SLC24A9), mRNA   |
| 1261 14010       | 26878           |                | 0.98              | 1.0E-102                             | 4826877               | NT                      | Homo sapiens cDNA clone IMAGE_36228901 5'  |
| 1398 14145       | 26823           |                | 1197              | 1.0E-102                             | BE408447.1            | EST_HUMAN               | 6012386892F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE_15399854 3' similar to am80c10_x1 Johnston frontal cortex Homo sapiens cDNA clone GOLGIN-85.;                                |
| 2307 15092       | 27768           |                | 1.88              | 1.0E-102                             | AI124668.1            | EST_HUMAN               | SW:CC95_HUMAN Q08379 GOLGIN-85.  |
| 2307 15092       | 27770           |                | 1.88              | 1.0E-102                             | AI124669.1            | EST_HUMAN               | SW:CC95_HUMAN Q08379 GOLGIN-85.  |
| 3061 15827       | 28472           |                | 1.32              | 1.0E-102                             | 7681979               | NT                      | Homo sapiens KIAA0187 gene product (KIAA0187), mRNA  |
| 3130 15895       | 28538           |                | 4.76              | 1.0E-102                             | AU141005.1            | EST_HUMAN               | AU141005 PLACE4 Homo sapiens cDNA clone PLACE4000050 5'  |
| 3130 15895       | 28539           |                | 4.76              | 1.0E-102                             | AU141005.1            | EST_HUMAN               | AU141005 PLACE4 Homo sapiens cDNA clone PLACE4000050 5'  |
| 4207 16948       | 28574           |                | 1.57              | 1.0E-102                             | AI163207.2            | NT                      | Homo sapiens chromosome 21 segment HS21C007  |
| 4378 17115       | 29748           |                | 2.17              | 1.0E-102                             | BE251310.1            | EST_HUMAN               | 601107843F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE_3343882 5'  |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Single Exon Probes Expressed in Brain |                 |                |                   |                            |                       |                         |
|---------------------------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|
| Probe SEQ ID NO:                      | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source |
| 5287                                  | 18092           | 30753          | 1.87              | 1.0E-102                   | AF067133.1            | NT                      |
| 5663                                  | 18458           |                |                   | 9.17                       | 1.0E-102 AB034851.1   | NT                      |
| 5668                                  | 18492           | 31414          |                   | 2.84                       | 1.0E-102 770598       | NT                      |
| 5688                                  | 18492           | 31415          |                   | 2.84                       | 1.0E-102 770598       | NT                      |
| 5704                                  | 18498           | 31420          | 0.81              | 1.0E-102                   | 11433046              | NT                      |
| 6200                                  | 18976           | 31954          | 2.83              | 1.0E-102                   | AI459825.1            | EST_HUMAN               |
| 7036                                  | 19728           | 32785          | 0.75              | 1.0E-102                   | BE728323.1            | EST_HUMAN               |
| 7065                                  | 19756           | 32821          | 1.04              | 1.0E-102                   | BE348103.1            | EST_HUMAN               |
| 7255                                  | 18939           | 33014          | 6.23              | 1.0E-102                   | AJ238894.1            | NT                      |
| 7524                                  | 20195           | 33288          | 2.48              | 1.0E-102                   | AV710738.1            | EST_HUMAN               |
| 8122                                  | 20816           | 33982          | 3.91              | 1.0E-102                   | BE763051.1            | EST_HUMAN               |
| 8201                                  | 20895           | 34092          | 1.32              | 1.0E-102                   | BE910551              | EST_HUMAN               |
| 8392                                  | 21085           | 34218          | 2.21              | 1.0E-102                   | AV694871.1            | EST_HUMAN               |
| 8392                                  | 21085           | 34219          | 2.21              | 1.0E-102                   | AV694871.1            | EST_HUMAN               |
| 8501                                  | 21183           | 34335          | 1.19              | 1.0E-102                   | AB007823.1            | NT                      |
| 8829                                  | 21621           | 34687          | 0.83              | 1.0E-102                   | BF388063.1            | EST_HUMAN               |
| 8829                                  | 21521           | 34668          | 0.83              | 1.0E-102                   | BE388063.1            | EST_HUMAN               |
| 9150                                  | 21881           | 35049          | 0.52              | 1.0E-102                   | AI762889.1            | EST_HUMAN               |
| 9181                                  | 21881           | 35017          | 0.61              | 1.0E-102                   | AV755842.1            | EST_HUMAN               |
| 9221                                  | 21900           | 35069          | 2.28              | 1.0E-102                   | T70393.1              | EST_HUMAN               |
| 9221                                  | 21900           | 35070          | 2.28              | 1.0E-102                   | T70393.1              | EST_HUMAN               |
| 9311                                  | 21973           | 35151          | 3.79              | 1.0E-102                   | AU124629.1            | EST_HUMAN               |
| 10281                                 | 22929           | 36295          | 0.69              | 1.0E-102                   | AF153715.1            | NT                      |
| 10367                                 | 23013           | 36228          | 3.67              | 1.0E-102                   | AI805037.1            | EST_HUMAN               |
| 10367                                 | 23013           | 36229          | 3.67              | 1.0E-102                   | AI805037.1            | EST_HUMAN               |
| 10428                                 | 23074           | 36295          | 1.24              | 1.0E-102                   | AA970788.1            | EST_HUMAN               |
| 11008                                 | 23880           | 36837          | 2.86              | 1.0E-102                   | 4507822               | NT                      |
| 11008                                 | 23880           | 36938          | 2.86              | 1.0E-102                   | 4507822               | NT                      |
| 11280                                 | 23951           | 37248          | 1.55              | 1.0E-102                   | AA868675.1            | EST_HUMAN               |
| 11380                                 | 23987           | 37287          | 3.01              | 1.0E-102                   | BF35243.1             | EST_HUMAN               |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLASTE Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|-------------------------------------|-----------------------|-------------------------|--|
| 11710            | 24305           | 37831          | 3.67              | 1.0E-102                            | U41362.1              | NT                      | Human chromosome 16 creatine transporter (SLC8A8) and (CDM) paralogous genes, complete cds                                       |
| 11811            | 24475           | 31023          | 3.52              | 1.0E-102                            | AL163280.2            | NT                      | Hom sapiens chromosome 21 segment HS21C0380  |
| 12450            | 24520           | 31023          | 4.69              | 1.0E-102                            | AW300862.1            | EST_HUMAN               | x07G72X1 NCI_CGAP_Co20 Homo sapiens cDNA clone IMAGE-2868038 3'  |
| 67               | 12895           | 25528          | 1.16              | 1.0E-103                            | BE80158.1             | EST_HUMAN               | 60160405F1 NIH_MGC_70 Homo sapiens cDNA clone IMAGE-3802305 5'   |
| 67               | 12895           | 25529          | 1.19              | 1.0E-103                            | BE80158.1             | EST_HUMAN               | 60160405F1 NIH_MGC_70 Homo sapiens cDNA clone IMAGE-3802305 5'   |
| 88               | 12924           | 25661          | 10.6              | 1.0E-103                            | D87078.2              | NT                      | Hom sapiens nucleolar protein (KKE[D repeat] NOP56) mRNA   |
| 203              | 13016           | 25656          | 1.45              | 1.0E-103                            | 5453793               | NT                      | Hom sapiens associated plasma protein-E (PAPP-E gene)  |
| 890              | 13726           | 25389          | 0.79              | 1.0E-103                            | AJ278348.1            | NT                      | Hom sapiens mRNA for pregnancy-associated plasma protein-E (PAPP-E) mRNA   |
| 1221             | 13971           | 28643          | 10.23             | 1.0E-103                            | BEST77541.1           | EST_HUMAN               | 60148538SF1 NIH_MGC_89 Homo sapiens cDNA clone IMAGE-230 (pI4K230) mRNA, complete cds  |
| 1681             | 14337           | 27028          | 3.78              | 1.0E-103                            | AF012872.1            | NT                      | Hom sapiens GDS-ASSOCIATED PROTEIN (SMAP), mRNA  |
| 1807             | 14644           | 27354          | 1.75              | 1.0E-103                            | 7857592               | NT                      | Hom sapiens home morphogenetic protein 8 (osteogenic protein 2) (BMP8) mRNA  |
| 1888             | 14704           | 27420          | 1.44              | 1.0E-103                            | 4502428               | NT                      | Hom sapiens home morphogenetic protein 8 (osteogenic protein 2) (BMP8) mRNA  |
| 1888             | 14704           | 27421          | 1.44              | 1.0E-103                            | 4502428               | NT                      | Hom sapiens PLACE1 Homo sapiens cDNA clone PLACE000865 5'  |
| 2303             | 18028           | 27785          | 1.15              | 1.0E-103                            | AU134991.1            | EST_HUMAN               | AU134991 PLACE1 Homo sapiens zinc finger protein (PLZF) gene, complete cds   |
| 2452             | 16170           | 27909          | 1.33              | 1.0E-103                            | AF050568.1            | NT                      | Hom sapiens promyelocytic leukemia zinc finger protein (PLZF) gene, IMAGE-4179428 5'   |
| 2603             | 15318           | 28055          | 1.23              | 1.0E-103                            | BFG28378.1            | EST_HUMAN               | 602041882F1 NIH_MGC_89 Homo sapiens cDNA clone IMAGE-4179428 5'  |
| 2603             | 15316           | 28058          | 1.23              | 1.0E-103                            | BFG28378.1            | EST_HUMAN               | 602041882F1 NIH_MGC_89 Homo sapiens cDNA clone IMAGE-4179428 5'  |
| 3084             | 15530           | 28841          | 2.68              | 1.0E-103                            | BF744722.1            | EST_HUMAN               | UH-BW0-4t-h-11-0-JL_s1 NCI CGAP_Sub6 Homo sapiens cDNA clone IMAGE-2733165 3'  |
| 3374             | 16133           | 28789          | 4.1               | 1.0E-103                            | AV288245.1            | EST_HUMAN               | Hom sapiens partial cds  |
| 3433             | 16180           | 28837          | 0.89              | 1.0E-103                            | AB040892.1            | NT                      | Hom sapiens mRNA for KIAA1459 protein, partial cds   |
| 3137             | 16490           |                | 8.55              | 1.0E-103                            | AF0229861.1           | NT                      | Macaca mulatta cyclophilin A mRNA, complete cds  |
| 3774             | 16526           | 29165          | 1.23              | 1.0E-103                            | AA485983.1            | EST_HUMAN               | ab10d12.s1 Strategene lung (8337210) Homo sapiens cDNA clone IMAGE-3404077 3' similar to contains ab10d12.s1 Repetitive element: |
| 3810             | 16562           | 29195          | 1.72              | 1.0E-103                            | 11430876              | NT                      | Hom sapiens neuropilin 1 (NRIP1), mRNA   |
| 3985             | 16733           | 28987          | 3.47              | 1.0E-103                            | T236883.1             | EST_HUMAN               | sec4540 b4HB3MA-Cor108+10-Bio Homo sapiens cDNA clone IMAGE-4310573 5'.  |
| 6844             | 18632           | 31597          | 0.98              | 1.0E-103                            | BFE89527.1            | EST_HUMAN               | Hom sapiens septin 2 (SEF2) mRNA, partial cds  |
| 5852             | 18639           | 31677          | 2.62              | 1.0E-103                            | AF178895.1            | NT                      | Hom sapiens KIAA0440 protein (KIAA0440), mRNA  |
| 6174             | 18951           | 31923          | 0.89              | 1.0E-103                            | 11435053              | NT                      | Hom sapiens KIAA0440 protein (KIAA0440), mRNA  |
| 6174             | 18951           | 31924          | 0.89              | 1.0E-103                            | 11435053              | NT                      | EST_HUMAN  |
| 6368             | 19137           | 32132          | 0.75              | 1.0E-103                            | AW954598.1            | EST_HUMAN               | EST366638 MAGC resequences, MAGC1 Homo sapiens cDNA  |
| 6368             | 19137           | 32133          | 0.75              | 1.0E-103                            | AW954598.1            | EST_HUMAN               | EST366638 MAGC resequences, MAGC1 Homo sapiens cDNA  |
| 6498             | 25692           | 32265          | 1.53              | 1.0E-103                            | AA781442.1            | EST_HUMAN               | 426e03 s1 Scores testis NIH Homo sapiens alpha 2 subunit (GLRA2) gene, secn 4  |
| 6535             | 18201           | 32304          | 0.94              | 1.0E-103                            | AF053490.1            | NT                      | Hom sapiens glycine receptor alpha 2 subunit (GLRA2) gene, secn 4  |

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**Table 4**  
**Single Exon Probes Expressed In Brain**

| Probe Seq ID No. | Exon Seq ID No.. | ORF Seq ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source                              | Top Hit Descriptor  |
|------------------|------------------|----------------|-------------------|--------------------------------------|-----------------------|--|---|
| 6618             | 18380            | 32398          | -                 | 1.48                                 | 1.0E-103              | AI590071.1   | EST_HUMAN<br>Q13788 ANONYMOUS.;<br>Int58805.x1 NCI_CGAP_Bm25 Homo sapiens cDNA clone IMAGE:2162289 3' similar to TR-Q13789  |
| 6618             | 18380            | 32397          | -                 | 1.48                                 | 1.0E-103              | AI590071.1   | EST_HUMAN<br>Q13788 ANONYMOUS.;<br>Int58805.x1 NCI_CGAP_Bm25 Homo sapiens cDNA clone IMAGE:2162289 3' similar to TR-Q13789  |
| 6747             | 17816            | 30578          | -                 | 1.53                                 | 1.0E-103              | 5032282 NT   | Hom sapiens dystrophin (muscular dystrophy Duchenne and Becker types), includes DDX142, DDX164, DDX208, DDX230, DDX239, DDX268, DDX269, DDX270, DDX272 (DMD), transcript variant Dp427m, mRNA |
| 6747             | 17816            | 30580          | -                 | 1.53                                 | 1.0E-103              | 5032282 NT   | Hom sapiens dystrophin (muscular dystrophy Duchenne and Becker types), includes DDX142, DDX164, DDX208, DDX230, DDX239, DDX268, DDX269, DDX270, DDX272 (DMD), transcript variant Dp427m, mRNA |
| 6872             | 17849            | 30544          | -                 | 1.27                                 | 1.0E-103              | AJ269880.1   | Hom sapiens ribosomal protein L3-like (RPL3L), mRNA   |
| 6835             | 18870            | 32716          | -                 | 0.89                                 | 1.0E-103              | EST_378249 MAGIE resequences, MAGI Homo sapiens cDNA | Hom sapiens KIAA0351 gene (partial), X73 gene and LZTFL1 gene   |
| 7127             | 18815            | 32883          | -                 | 1.83                                 | 1.0E-103              | AW065778.1   | EST_HUMAN<br>EST_378249 MAGIE resequences, MAGI Homo sapiens cDNA   |
| 7233             | 18918            | 32880          | -                 | 6.83                                 | 1.0E-103              | BE748158.1   | EST_HUMAN<br>601671537F1 NIH_MGC_551 Homo sapiens cDNA clone IMAGE:3838545 5'   |
| 7671             | 20335            | 33446          | -                 | 4.21                                 | 1.0E-103              | AI590071.1   | EST_HUMAN<br>Int58805.x1 NCI_CGAP_Bm25 Homo sapiens cDNA clone IMAGE:2162289 3' similar to TR-Q13789<br>C13788 ANONYMOUS.;  |
| 7871             | 20335            | 33447          | -                 | 4.21                                 | 1.0E-103              | AI590071.1   | EST_HUMAN<br>Int58805.x1 NCI_CGAP_Bm25 Homo sapiens cDNA clone IMAGE:2162289 3' similar to TR-Q13789<br>C13788 ANONYMOUS.;  |
| 8187             | 20881            | 34019          | -                 | 0.77                                 | 1.0E-103              | T31080.1   | EST_HUMAN<br>EST27783 Human Brain Homo sapiens cDNA 5' end similar to None  |
| 8510             | 21211            | 34354          | -                 | 2.22                                 | 1.0E-103              | AU140344   | PLACE2 Homo sapiens cDNA clone PLACE2000374 5'  |
| 8510             | 21211            | 34355          | -                 | 2.22                                 | 1.0E-103              | AU140344   | PLACE2 Homo sapiens cDNA clone PLACE2000374 5'  |
| 8804             | 21286            | 34439          | -                 | 1.1                                  | 1.0E-103              | BF108244.1   | EST_HUMAN<br>780803.x1 Scars_NSF_F8_9W_OT_PA_P_S1 Homo sapiens cDNA clone IMAGE:35258964 3' similar to SWIFTNF_HUMAN Q16825 PROTEIN-TYROSINE PHOSPHATASE D1;                                  |
| 9005             | 21685            | 34845          | -                 | 2.86                                 | 1.0E-103              | 60035821 NT  | Hom sapiens triple functional domain (PTPRF interacting) (TRIO), mRNA   |
| 9005             | 21685            | 34846          | -                 | 2.86                                 | 1.0E-103              | 60035821 NT  | Hom sapiens triple functional domain (PTPRF interacting) (TRIO), mRNA   |
| 9046             | 21736            | 34891          | -                 | 1.16                                 | 1.0E-103              | AA581088.1   | EST_HUMAN<br>nd13e02.s1 NCI_CGAP_Ov1 Homo sapiens cDNA clone IMAGE:3001622 3' similar to gb:102428 28S<br>PROTEASE SUBUNIT 4 (HUMAN);   |
| 9088             | 21777            | 34941          | -                 | 5.04                                 | 1.0E-103              | AA774980.1   | EST_HUMAN<br>gbX03747_cds1 SODIUM-POTASSIUM-TRANSPORTING ATPASE BETA-1 (HUMAN);   |
| 9162             | 21832            | 34985          | -                 | 0.58                                 | 1.0E-103              | BE935842.1   | EST_HUMAN<br>QV2-NN0045-230800-322-b03 NN0045 Homo sapiens cDNA   |
| 9162             | 21832            | 34996          | -                 | 0.58                                 | 1.0E-103              | BE935842.1   | EST_HUMAN<br>QV2-NN0045-230800-322-b03 NN0045 Homo sapiens cDNA   |
| 9958             | 22608            | 35811          | -                 | 1.44                                 | 1.0E-103              | Z37978.1   | H.sapiens mRNA for latent transforming growth factor-beta binding protein (LTBP-2)  |
| 9959             | 22647            | 35859          | -                 | 1.89                                 | 1.0E-103              | AW0653678.1  | EST_HUMAN<br>EST3375749 MAGIE resequences, MAGI Homo sapiens cDNA   |

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Table 4  
Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|--|
| 10138            | 22788           | 35988          | 8.2               | 1.0E-103                         | A1878856.1            | EST_HUMAN               | aa51g04.y1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2518328 5' similar to TR:O15048 O15048 KIAA0338;                      |
| 10634            | 23526           | 36563          | 3.66              | 1.0E-103                         | A1782759.1            | EST_HUMAN               | d02a08.y5 NCI_OGAP_Lu5 Homo sapiens cDNA clone IMAGE:1522283 5' similar to TR:Q62084 Q62084 PHOSPHOLIPASE C NEIGHBORING;                   |
| 10737            | 23424           | 36868          | 2.04              | 1.0E-103                         | 11424061              | NT                      | Homo sapiens AXL receptor tyrosine kinase (AXL), mRNA  |
| 10737            | 23424           | 36868          | 2.04              | 1.0E-103                         | 11424061              | NT                      | Homo sapiens AXL receptor tyrosine kinase (AXL), mRNA  |
| 10748            | 23434           | 36877          | 2.22              | 1.0E-103                         | AF14973.1             | NT                      | Homo sapiens NOD1 protein (NOD1) gene, exons 1, 2, and 3   |
| 10748            | 23434           | 36878          | 2.22              | 1.0E-103                         | AF14973.1             | NT                      | Homo sapiens NOD1 protein (NOD1) gene, exons 1, 2, and 3   |
| 10783            | 23478           | 36717          | 1.3               | 1.0E-103                         | X87831.2              | NT                      | Homo sapiens mRNA for partial OCT/pleiotrophin-A2 protein  |
| 10783            | 23478           | 36718          | 1.3               | 1.0E-103                         | X87831.2              | NT                      | Homo sapiens mRNA for partial OCT/pleiotrophin-A2 protein  |
| 11347            | 24037           | 37340          | 2.8               | 1.0E-103                         | AU136283.1            | EST_HUMAN               | AU136283 PLACE:1 Homo sapiens cDNA clone PLACE:1003923 5'  |
| 11423            | 23190           | 36421          | 10.74             | 1.0E-103                         | L49810.1              | NT                      | Homo sapiens polycystic kidney disease (PKD1) gene, exons 27-30  |
| 11748            | 24339           | 37867          | 2.41              | 1.0E-103                         | BE844611.1            | EST_HUMAN               | 7e68a10.x1 Scores_NSF_F8_9W_OT_PA_P_S1 Homo sapiens cDNA clone IMAGE:3287810 3' similar to MER26.3 MER26 repetitive element;               |
| 11837            | 24484           |                | 2.11              | 1.0E-103                         | 11626281              | NT                      | Homo sapiens hypothetical protein FLJ20454 (FLJ20454), mRNA  |
| 12128            | 24620           | 31091          | 2.83              | 1.0E-103                         | AB011388.1            | NT                      | Homo sapiens genes for AF-6, complete cds  |
| 227              | 13039           | 25676          | 3.73              | 1.0E-104                         | AL037649.3            | EST_HUMAN               | DKF-Z6584H1072_R1_584 (synonym: Ifib2) Homo sapiens cDNA clone DKFZp564H1072_5'  |
| 227              | 13039           | 25677          | 3.73              | 1.0E-104                         | AL037549.3            | EST_HUMAN               | DKF-Z6584H1072_R1_584 (synonym: Ifib2) Homo sapiens cDNA clone DKFZp564H1072_5'  |
| 1881             | 14618           | 27328          | 2.18              | 1.0E-104                         | 4502428               | NT                      | Homo sapiens bone morphogenic protein 8 (osteogenic protein 2) (BMP8) mRNA   |
| 2190             | 14919           | 27853          | 3.68              | 1.0E-104                         | AA132875.1            | EST_HUMAN               | z22008.e1 Strategene colon (#337264) Homo sapiens cDNA clone IMAGE:587628 3' similar to gbb241416_maf_Q058 GLYCOPROTEIN PRECURSOR (HUMAN); |
| 2201             | 14829           | 27868          | 2.57              | 1.0E-104                         | BE744628.1            | EST_HUMAN               | 601577460F1_N1_MGC_9_Homo sapiens cDNA clone IMAGE:3826438 5'  |
| 2369             | 15091           | 27829          | 1.38              | 1.0E-104                         | BF334221.1            | EST_HUMAN               | RC1-C70248-110900-214-f12 CT0248 Homo sapiens cDNA   |
| 2369             | 15091           | 27830          | 1.38              | 1.0E-104                         | BF334221.1            | EST_HUMAN               | RC1-C70248-110900-214-f12 CT0248 Homo sapiens cDNA   |
| 2438             | 15158           | 27863          | 1.68              | 1.0E-104                         | 5031570               | NT                      | Homo sapiens ARP2 (beta-tubulin-related protein 2, yeast) homolog (ACTR2), mRNA  |
| 2507             | 15224           | 27865          | 1.11              | 1.0E-104                         | 7682125               | NT                      | Homo sapiens KIAA0440 protein (KIAA0440), mRNA   |
| 2507             | 15224           | 27866          | 1.11              | 1.0E-104                         | 7682126               | NT                      | Homo sapiens KIAA0440 protein (KIAA0440), mRNA   |
| 2874             | 15841           | 28285          | 7.41              | 1.0E-104                         | M34671.1              | NT                      | Human lymphocytic antigen CD55(MEM43) mRNA, complete cds   |
| 2817             | 15983           |                | 2.74              | 1.0E-104                         | Y11151.1              | NT                      | H.sapiens gene encoding phenylpyruvate lyase II  |
| 3386             | 16145           |                | 2.04              | 1.0E-104                         | AA319438.1            | EST_HUMAN               | EST21658 Adrenal gland tumor Homo sapiens cDNA 5' end  |
| 3587             | 16341           | 28986          | 0.79              | 1.0E-104                         | AB033102.1            | NT                      | Homo sapiens mRNA for KIAA1276 protein, partial cds  |
| 3587             | 16341           | 28987          | 0.79              | 1.0E-104                         | AB033102.1            | NT                      | Homo sapiens mRNA for KIAA1276 protein, partial cds  |
| 3924             | 16874           | 28315          | 0.76              | 1.0E-104                         | AB032868.1            | NT                      | Human mRNA for fibronectin (FN precursor)  |
| 4344             | 17083           | 28712          | 3.83              | 1.0E-104                         | X02761.1              | NT                      | Human mRNA for fibronectin (FN precursor)  |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 4570             | 173056          | 29832          | 1.23              | 1.0E-104                             | AF231920.1            | NT                      | Homo sapiens chromosome 21 unknown mRNA   |
| 4570             | 173055          | 29833          | 1.23              | 1.0E-104                             | AF231920.1            | NT                      | Homo sapiens chromosome 21 unknown mRNA   |
| 5108             | 17824           | 30441          | 1.08              | 1.0E-104                             | 7857038               | NT                      | Homo sapiens death receptor 6 (DR6), mRNA   |
| 6950             | 18637           | 31573          | 1.26              | 1.0E-104                             | U43378.1              | NT                      | Human Down Syndrome region of chromosome 21 DNA   |
| 5850             | 18637           | 31574          | 1.26              | 1.0E-104                             | U43378.1              | NT                      | Human Down Syndrome region of chromosome 21 DNA   |
| 5897             | 18632           | 31630          | 1.12              | 1.0E-104                             | AB017332.1            | NT                      | Homo sapiens atk3 mRNA for Aurora/B/p110-related kinase 3, complete cds                         |
| 6376             | 18144           | 32141          | 9.51              | 1.0E-104                             | AT788797.1            | EST_HUMAN               | KIAA0132 PROTEIN : contains element LTR7 repetitive element;                                    |
| 6376             | 18144           | 32142          | 9.51              | 1.0E-104                             | AT788797.1            | EST_HUMAN               | wf35b12_x1 NCI_CGAP_Kid121 Homo sapiens cDNA clone IMAGE:2401727 3' similar to TR:Q14145 Q14145 |
| 6851             | 18316           | 32322          | 0.75              | 1.0E-104                             | 7708512               | NT                      | KIAA0132 PROTEIN : contains element LTR7 repetitive element;                                    |
| 6706             | 18621           | 32653          | 3.31              | 1.0E-104                             | BE314182.1            | EST_HUMAN               | Homo sapiens PDZ domain-containing guanine nucleotide exchange factor 1 (LOC511735), mRNA       |
| 6706             | 18621           | 32684          | 3.31              | 1.0E-104                             | BE314182.1            | EST_HUMAN               | wf35b12_x1 NCI_MGC_19 Homo sapiens cDNA clone IMAGE:35b3220 5'                                  |
| 7125             | 18813           | 32881          | 2.03              | 1.0E-104                             | 11425572              | NT                      | Homo sapiens adaptor-related protein complex 2, beta 1 subunit (AP2B1), mRNA                    |
| 8495             | 21187           | 34330          | 0.83              | 1.0E-104                             | BF509244.1            | EST_HUMAN               | U+H-B14-sow-b-00-0-U1.51 NCI_CGAP_Sus8 Homo sapiens cDNA clone IMAGE:30886176 3'                |
| 9095             | 21754           | 34915          | 5.23              | 1.0E-104                             | BF448280.1            | EST_HUMAN               | ned18g11_x1 NCI_CGAP_Luz24 Homo sapiens cDNA clone IMAGE:3365948 3'                             |
| 9163             | 21833           | 34987          | 0.5               | 1.0E-104                             | AA4682308.1           | EST_HUMAN               | Zf88b05.51 Scarees fetal liver spleen_1NFL5_S1 Homo sapiens cDNA clone IMAGE:462897 3'          |
| 9184             | 21854           | 35001          | 1.31              | 1.0E-104                             | 774219.1              | EST_HUMAN               | yc8302.11 Scarees infant brain 1NIB Homo sapiens cDNA clone IMAGE:22440 5'                      |
| 9214             | 21883           | 35060          | 4.27              | 1.0E-104                             | AF091305.1            | NT                      | Homo sapiens TrkB isoform mRNA, complete cds  |
| 9214             | 21883           | 35061          | 4.27              | 1.0E-104                             | AF091305.1            | NT                      | Homo sapiens TrkB isoform mRNA, complete cds  |
| 9241             | 20412           | 33529          | 4.4               | 1.0E-104                             | BF352841.1            | EST_HUMAN               | L3-HT0819-0808900-249-F07 HT0819 Homo sapiens cDNA  |
| 9241             | 20412           | 33530          | 4.4               | 1.0E-104                             | BF352841.1            | EST_HUMAN               | L3-HT0819-0808900-249-F07 HT0819 Homo sapiens cDNA  |
| 9854             | 22308           | 35503          | 0.85              | 1.0E-104                             | AV103848.1            | EST_HUMAN               | xd78d02_x1 Scarees_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2603523 3' similar to TR:Q24116   |
| 9854             | 22308           | 35504          | 0.85              | 1.0E-104                             | AV103848.1            | EST_HUMAN               | Q24116 HYPOTHETICAL 29.4 KD PROTEIN ;   |
| 9847             | 22497           | 35598          | 0.71              | 1.0E-104                             | AF113514.1            | NT                      | Homo sapiens histone acetyltransferase MORF mRNA, complete cds                                  |
| 9893             | 22641           | 35852          | 2.83              | 1.0E-104                             | BE791713.1            | EST_HUMAN               | 6016815031FI NIH MGC_7 Homo sapiens cDNA clone IMAGE:3833977 5'                                 |
| 9903             | 22841           | 35853          | 2.83              | 1.0E-104                             | BE791713.1            | EST_HUMAN               | 6016815031FI NIH MGC_7 Homo sapiens cDNA clone IMAGE:3833977 5'                                 |
| 10289            | 22946           | 36160          | 1.28              | 1.0E-104                             | AV728070.1            | EST_HUMAN               | AV728070 HTC Homo sapiens cDNA clone HTCBY07 5'   |
| 10339            | 22988           | 36204          | 4.51              | 1.0E-104                             | AU130785.1            | EST_HUMAN               | AU130785 NT2RFP3 Homo sapiens cDNA clone NT2RF3001398 5'  |
| 10450            | 23096           | 36327          | 4.41              | 1.0E-104                             | U66535.1              | NT                      | Human beta4-integrin (ITGB4) gene, exons 19-20,21-22,23-24 and 25                               |
| 10464            | 23110           |                | 0.82              | 1.0E-104                             | 11427757              | NT                      | Homo sapiens KIAA0649 gene product (KIAA0649), mRNA   |
| 11268            | 23380           | 37221          | 2.07              | 1.0E-104                             | BE720191.1            | EST_HUMAN               | RC0-HT0885-310700-021-b09 HT0885 Homo sapiens cDNA  |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor  |   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|---|---|
|                  |                 |                |                   |                                      |                       |  | Top Hit   | Descriptor                                      |
| 11268            | 23930           | 317222         | 2.07              | 1.0E-104                             | BT220191.1            | EST_HUMAN  | RC0-HT0885-310700-021-b08   | HT0885_Homo_sapiens cDNA clone IMAGE_4302507 5' |
| 11269            | 23959           | 37259          | 4.86              | 1.0E-104                             | BFC84298.1            | EST_HUMAN  | 602141215F1 NIH_MGC_46_Homo_sapiens cDNA clone IMAGE_3841681 5'                 |   |
| 11580            | 24189           | 37505          | 1.75              | 1.0E-104                             | BT731978.1            | EST_HUMAN  | 601568808F1 NIH_MGC_21_Homo_sapiens cDNA clone IMAGE_3841681 5'                 |   |
| 11580            | 24189           | 37508          | 1.75              | 1.0E-104                             | BT731978.1            | EST_HUMAN  | 601568808F1 NIH_MGC_21_Homo_sapiens cDNA clone IMAGE_3841681 5'                 |   |
| 11781            | 24381           | 37712          | 1.42              | 1.0E-104                             | 11434729 NT           | Homo_sapiens lysosomal protein S6 kinase, 80kD, polypeptide 5 (RPS6KA5), mRNA                      |   |   |
| 12702            | 24982           |                | 2.38              | 1.0E-104                             | BE363892.1            | EST_HUMAN  | 601312181F1 NIH_MGC_44_Homo_sapiens cDNA clone IMAGE_3863876 5'                 |   |
| 272              | 16514           | 25722          | 11.13             | 1.0E-105                             | 45021661 NT           | Homo_sapiens amyloid beta (A4) precursor protein (protease nexin-1, Alzheimer disease) (APP), mRNA |   |   |
| 416              | 12827           | 25440          | 8.89              | 1.0E-105                             | 45051601 NT           | Homo_sapiens Mef1 (mouse) homolog (MEIS1) mRNA   |   |   |
| 580              | 13360           | 25887          | 1.92              | 1.0E-105                             | AF032897.1            | NT   | Homo_sapiens potassium channel subunit (HERG-3) mRNA, complete cds              |   |
| 580              | 13360           | 25888          | 1.92              | 1.0E-105                             | AF032897.1            | NT   | Homo_sapiens potassium channel subunit (HERG-3) mRNA, complete cds              |   |
| 1814             | 14554           | 27268          | 0.91              | 1.0E-105                             | AL163280.2            | NT   | Homo_sapiens chromosome 21 segment HS21C050                                     |   |
| 1919             | 14696           | 27368          | 1.83              | 1.0E-105                             | D50918.1              | NT   | Human mRNA for KIAA0128 gene, partial cds                                       |   |
| 2186             | 14915           | 27649          | 1.29              | 1.0E-105                             | AA318369.1            | EST_HUMAN  | EST20689_Spleen   Homo_sapiens cDNA clone IMAGE_3919511 5'                      |   |
| 2322             | 15047           |                | 1.44              | 1.0E-105                             | BE891768.1            | EST_HUMAN  | Hom sapiens 85 kb contig between AML1 and CBF1 on chromosome 21q22; segment 1/3 |   |
| 3006             | 15772           |                | 2.89              | 1.0E-105                             | AJ229041.1            | NT   | Hom sapiens bromodomain adjacent to zinc finger domain, 2B (BAZ2B), mRNA        |   |
| 3348             | 16106           | 28759          | 0.88              | 1.0E-105                             | 7304822 NT            | NT   | Hom sapiens bromodomain adjacent to zinc finger domain, 2B (BAZ2B), mRNA        |   |
| 3346             | 16105           | 28760          | 0.88              | 1.0E-105                             | 7304822 NT            | NT   | Hom sapiens chromosome 21 segment HS21C008                                      |   |
| 4077             | 16821           | 28447          | 2.07              | 1.0E-105                             | AW861688.1            | EST_HUMAN  | EST373761 MAGE resequences, MAGG_Homo_sapiens cDNA                              |   |
| 4694             | 17428           | 30058          | 0.74              | 1.0E-105                             | BE888881.1            | EST_HUMAN  | 601445823F1 NIH_MGC_65_Homo_sapiens cDNA clone IMAGE_3880158 5'                 |   |
| 4694             | 17428           | 30059          | 0.74              | 1.0E-105                             | BE888881.1            | EST_HUMAN  | 601445823F1 NIH_MGC_65_Homo_sapiens cDNA clone IMAGE_3880158 5'                 |   |
| 4886             | 17613           |                | 4.24              | 1.0E-105                             | AL163208.2            | NT   | Hom sapiens mRNA for KIAA0786 protein, partial cds                              |   |
| 5043             | 17762           | 30377          | 1.16              | 1.0E-105                             | AB018339.1            | NT   |   |   |
| 5091             | 17810           | 30426          | 0.94              | 1.0E-105                             | AW966015.1            | EST_HUMAN  | EST373768 MAGE resequences, MAGI_Homo_sapiens cDNA clone IMAGE_4130334 5'       |   |
| 5247             | 18053           | 30681          | 0.86              | 1.0E-105                             | AF010704.1            | NT   | Hom sapiens ubiquitin-protein ligase (UBE3A) gene, exon 2                       |   |
| 6312             | 18116           |                | 1.07              | 1.0E-105                             | 11420134 NT           | Hom sapiens Retina-derived POU-domain factor-1 (RPF-1), mRNA                                       |   |   |
| 6804             | 19465           | 32485          | 2.16              | 1.0E-105                             | BF314302.1            | EST_HUMAN  | 601801028F1 NIH_MGC_19_Homo_sapiens cDNA clone IMAGE_4130334 5'                 |   |
| 6804             | 19465           | 32486          | 2.16              | 1.0E-105                             | BF314302.1            | EST_HUMAN  | Hom sapiens GTPase activating protein-like (GAP1), mRNA                         |   |
| 6885             | 17981           | 30515          | 3.65              | 1.0E-105                             | 11419198 NT           | Hom sapiens GTPase activating protein-like (GAP1), mRNA  |   |   |
| 6885             | 17981           | 30516          | 3.65              | 1.0E-105                             | 11419198 NT           | Hom sapiens GTPase activating protein-like (GAP1), mRNA  |   |   |
| 6927             | 19863           | 32709          | 0.83              | 1.0E-105                             | AW951684.1            | EST_HUMAN  | EST383689 MAGE resequences, MAGB_Homo_sapiens cDNA clone IMAGE_398019 5'        |   |
| 7184             | 19870           | 32944          | 0.59              | 1.0E-105                             | BE902616.1            | EST_HUMAN  | 601677278F1 NIH_MGC_21_Homo_sapiens cDNA clone IMAGE_398019 5'                  |   |
| 7722             | 20388           | 33500          | 0.65              | 1.0E-105                             | 6808894 NT            | Hom sapiens plakophilin 4 (PKP4), mRNA   |   |   |
| 7758             | 20454           | 33579          | 0.97              | 1.0E-105                             | X12558.1              | NT   | Human mRNA for dbl proto-oncogene   |   |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No.                               | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------------|---|--|--------------------|
| 7827             | 20622           | 33760          | 6.55              | 1.0E-105 T05087.1                | EST_HUMAN   | EST02975 Fetal brain, Stratagene (cat#306206) Homo sapiens cDNA clone IMAGE:2530628 3' similar to W550c10.x1 NCI_CGAP_Bm25 Homo sapiens cDNA clone IMAGE:2530628 3' similar to SW-JACSA_PENICH P26533 ACETYL-COENZYME A SYNTHETASE ; |                    |
| 8297             | 20891           | 34129          | 1.41              | 1.0E-105 AW007194.1              | EST_HUMAN   | RC1-ON0008-070100-011-e05 CN0008 Homo sapiens cDNA   |                    |
| 8823             | 21518           | 34663          | 0.68              | 1.0E-105 AW040817.1              | EST_HUMAN   | UH-B10p-abh-b-12-0-UJ.s1 NCI_CGAP_Sub2 Homo sapiens cDNA IMAGE:2711782 3'  |                    |
| 8948             | 21639           | 34786          | 2.82              | 1.0E-105 AW016878.1              | EST_HUMAN   | UH-B10p-abh-b-140300-0083-d09 OT0062 Homo sapiens cDNA   |                    |
| 9103             | 21781           | 34954          | 0.9               | 1.0E-105 AW082372.1              | EST_HUMAN   | QV2-QT0062-140300-0083-d08 OT0062 Homo sapiens cDNA  |                    |
| 9103             | 21791           | 34955          | 0.9               | 1.0E-105 AW082372.1              | EST_HUMAN   | QV2-QT0062-140300-0083-d08 OT0062 Homo sapiens cDNA  |                    |
| 9467             | 22077           | 35247          | 0.68              | 1.0E-105 BE867783.1              | EST_HUMAN   | 601443758F1 NIH_MGC_85 Homo sapiens cDNA clone IMAGE:3847884 5'  |                    |
| 9467             | 22077           | 35248          | 0.68              | 1.0E-105 BE867783.1              | EST_HUMAN   | 601443758F1 NIH_MGC_85 Homo sapiens cDNA clone IMAGE:3847884 5'  |                    |
| 10850            | 23531           | 36776          | 5.73              | 1.0E-105 AF254822.1              | NT  | Homo sapiens SMARCA4 isoform (SMARCA4) gene, complete cds, alternatively spliced   |                    |
| 11185            | 23860           | 37148          | 1.69              | 1.0E-105 D83648.1                | NT  | Homo sapiens CCDAAB gene for a&gt;IV collagen, exon 31   |                    |
| 11250            | 23912           | 37204          | 2.38              | 1.0E-105 77059236 NT             | Homosapiens Ran binding protein 11 (LOC51194), mRNA |  |                    |
| 11580            | 24179           | 37494          | 2.58              | 1.0E-105 AW027554.1              | EST_HUMAN   | W7407.x1 Soares_thymus_NHFT1 Homo sapiens cDNA clone IMAGE:2535301 3' similar to TR-P87892   |                    |
| 11675            | 24270           | 37592          | 1.43              | 1.0E-105 BF430921.1              | EST_HUMAN   | 7018c10.x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:3574281 3' similar to TR-P97680 P97680   |                    |
| 11681            | 24415           | 37753          | 1.73              | 1.0E-105 AB004924.1              | NT  | Homo sapiens gene for Smad3, exon 2 and 3  |                    |
| 11681            | 24415           | 37754          | 1.73              | 1.0E-105 AB004924.1              | NT  | Homo sapiens gene for Smad3, exon 2 and 3  |                    |
| 147              | 12862           |                | 1.39              | 1.0E-108 AW7603208.1             | EST_HUMAN   | U1-H-BN0-dk-g-07-0-UJ.s1 NIH_MGC_50 Homo sapiens cDNA clone IMAGE:3076348 5'   |                    |
| 200              | 13013           | 25854          | 1.79              | 1.0E-108 A15850985.1             | EST_HUMAN   | tg78c01.x1 NCI_CGAP_Ut1 Homo sapiens cDNA clone IMAGE:2215008 3'   |                    |
| 529              | 13313           | 25947          | 2.68              | 1.0E-108 AW985558.1              | EST_HUMAN   | EST1377629 MAGE resequences, Magi Homo sapiens cDNA  |                    |
| 591              | 13371           | 26000          | 0.76              | 1.0E-108 J00146.1                | NT  | Human dithydrilate reductase pseudogene (psi-hd1)  |                    |
| 592              | 13371           | 26009          | 2.08              | 1.0E-108 J00146.1                | NT  | Human dithydrilate reductase pseudogene (psi-hd1)  |                    |
| 1615             | 14262           | 26948          | 1.33              | 1.0E-105 AF145712.1              | NT  | Homo sapiens soluble neutrophil-1 mRNA, complete cds   |                    |
| 1697             | 14440           | 27138          | 3.48              | 1.0E-108 U48724.1                | NT  | ng41c05.s1 NCI_CGAP_C03 Homo sapiens cDNA clone IMAGE:837352 3' similar to contains element  |                    |
| 1798             | 14536           | 27245          | 4.71              | 1.0E-108 AA527448.1              | EST_HUMAN   | ng41c05.s1 NCI_CGAP_C03 Homo sapiens cDNA clone IMAGE:837352 3' similar to contains element  |                    |
| 1786             | 14536           | 27246          | 4.71              | 1.0E-108 AA527448.1              | EST_HUMAN   | LTR3 repetitive element;   |                    |
| 2118             | 14849           | 27578          | 2.31              | 1.0E-108 BE144286.1              | EST_HUMAN   | MRO-HT0165-1402200-008-d10 HT0165 Homo sapiens cDNA  |                    |
| 2315             | 15040           | 27778          | 2.89              | 1.0E-108 4504184                 | NT  | Homo sapiens glutathione S-transferase theta 1 (GSTT1), mRNA   |                    |
| 2610             | 15322           | 28084          | 1.82              | 1.0E-108 BE280201.1              | EST_HUMAN   | 601149783F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:3502481 5'  |                    |
| 2761             | 15466           | 28210          | 3.24              | 1.0E-108 AI270528.1              | EST_HUMAN   | q17610.x1 Soares_NHIMPU_S1 Homo sapiens cDNA clone IMAGE:1878307 3'  |                    |
| 2828             | 14159           | 28842          | 1.91              | 1.0E-108 4504184                 | NT  | Homo sapiens glutathione S-transferase theta 1 (GSTT1), mRNA   |                    |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No.                                     | Top Hit Database Source   | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------------|---|---|--------------------|
| 2828             | 14159           | 28849          | 1.91              | 1.0E-106                         | 4504184 NT  | Human sapiens glutathione S-transferase theta 1 (GSTT1), mRNA   |                    |
| 2942             | 15707           | 28357          | 5.23              | 1.0E-106                         | AB037747.1 NT   | Human sapiens mRNA for KIAA1328 protein, partial cds  |                    |
| 2942             | 15707           | 28358          | 5.23              | 1.0E-106                         | AB037747.1 NT   | Human sapiens mRNA for KIAA1328 protein, partial cds  |                    |
| 3178             | 16939           | 28588          | 2.18              | 1.0E-106                         | 8322985 NT  | Human sapiens hypothetical protein FLJ11273 (FLJ11273), mRNA  |                    |
| 3178             | 16939           | 28589          | 2.18              | 1.0E-106                         | 8322985 NT  | Human sapiens hypothetical protein FLJ11273 (FLJ11273), mRNA  |                    |
| 3387             | 16128           | 28784          | 0.81              | 1.0E-106                         | AB008681.1 NT   | Human sapiens gene for actin receptor type IIb, complete cds  |                    |
| 3434             | 16180           | 28838          | 1.18              | 1.0E-106                         | AB033104.1 NT   | Human sapiens mRNA for KIAA1278 protein, partial cds  |                    |
| 3434             | 16180           | 28839          | 1.18              | 1.0E-106                         | AB033104.1 NT   | Human sapiens mRNA for KIAA1278 protein, partial cds  |                    |
| 4017             | 16763           | 28391          | 7.95              | 1.0E-106                         | AW974650.1 EST_HUMAN                                      | EST386875 MAGE resequence, MAGN Homo sapiens cDNA   |                    |
| 4017             | 16763           | 28392          | 7.95              | 1.0E-106                         | AW974650.1 EST_HUMAN                                      | EST386875 MAGE resequence, MAGN Homo sapiens cDNA   |                    |
| 4035             | 16780           | 29410          | 1.05              | 1.0E-106                         | 5729729 NT  | Human sapiens API5-like 1 (API5L1), mRNA  |                    |
| 4582             | 17287           | 28924          | 1.4               | 1.0E-106                         | BE144286.1 EST_HUMAN                                      | MRO-HT0165-140200-008-d10 HT0165 Homo sapiens cDNA  |                    |
| 5135             | 17853           | 30469          | 1.09              | 1.0E-106                         | AL050253.1 NT   | H.sapiens mRNA similar to D29763 mouse mRNA for seizure-related gene product 6. Shares domains with BMPs, Tollid, Sushi repeat proteins |                    |
| 5135             | 17853           | 30470          | 1.09              | 1.0E-106                         | AL050253.1 NT   | H.sapiens mRNA similar to D29763 mouse mRNA for seizure-related gene product 6. Shares domains with BMPs, Tollid, Sushi repeat proteins |                    |
| 5235             | 18090           | 30750          | 2.61              | 1.0E-106                         | AA781155.1 EST_HUMAN                                      | g24b09.s1 Scores testis_NIH_Homo sapiens cDNA clone 1391223' similar to dbX12433 PROTEIN PHPS1-2 (HUMAN);                               |                    |
| 5784             | 18555           | 31480          | 0.53              | 1.0E-106                         | AU30113 NT_2RP3 Human sapiens cDNA clone NT_2RP3002274 5' |   |                    |
| 5784             | 18555           | 31481          | 0.53              | 1.0E-106                         | AU30113 NT_2RP3 Human sapiens cDNA clone NT_2RP3002274 5' |   |                    |
| 5816             | 18625           | 31553          | 0.58              | 1.0E-106                         | AA324168.1 EST_HUMAN                                      | 2m28d12.51 Scores ovary tumor NbHOT Homo sapiens cDNA clone IMAGE:770315 3'   |                    |
| 5804             | 18638           | 31637          | 1.3               | 1.0E-106                         | AU143428 Y79AA1 Homo sapiens cDNA clone Y79AA1001912 5'   |   |                    |
| 5804             | 18639           | 31638          | 1.3               | 1.0E-106                         | AU143428 Y79AA1 Homo sapiens cDNA clone Y79AA1001912 5'   |   |                    |
| 6011             | 18792           | 31755          | 4.89              | 1.0E-106                         | Bf078574.1 EST_HUMAN                                      | 602154012f1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE:4288067 5'   |                    |
| 6303             | 18892           | 31880          | 0.77              | 1.0E-106                         | BE897112.1 EST_HUMAN                                      | 6014389870f1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3924841 5'  |                    |
| 6325             | 19025           | 32083          | 17.66             | 1.0E-106                         | 11545613 NT   | Human sapiens Axosyltransferase II (XT2), tRNA  |                    |
| 6325             | 19025           | 32084          | 17.66             | 1.0E-106                         | 11545613 NT   | Human sapiens Axosyltransferase II (XT2), tRNA  |                    |
| 7271             | 18955           | 33031          | 5.16              | 1.0E-106                         | AA683778.1 EST_HUMAN                                      | s872007.s1 Stratagene schizo brain S11 Human sapiens cDNA clone IMAGE:3689732 3' similar to gboX6589 73 KINESIN HEAVY CHAIN (HUMAN);    |                    |
| 7324             | 20007           | 33084          | 5.33              | 1.0E-106                         | 11428617 NT   | Human sapiens XPMC2 protein (LOC57109), mRNA  |                    |
| 7402             | 20080           | 33161          | 1.21              | 1.0E-106                         | BE282722.1 EST_HUMAN                                      | 601105738f1 NIH_MGC_15 Homo sapiens cDNA clone IMAGE:2888345 5'   |                    |
| 7511             | 20182           | 33275          | 9.28              | 1.0E-106                         | 11425503 NT   | Human sapiens sorting nexin 11 (SNX11), mRNA  |                    |
| 7511             | 20182           | 33276          | 9.26              | 1.0E-106                         | 11425503 NT   | Human sapiens sorting nexin 11 (SNX11), mRNA  |                    |
| 7714             | 20373           | 33491          | 0.67              | 1.0E-106                         | AU116850.1 EST_HUMAN                                      | AU116850 HEMBA1 Homo sapiens cDNA clone HEMBA1000128 5'   |                    |

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 Table 4  
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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 7884             | 20579           | 33707          | 6.44              | 1.0E-108                             | BE741408.1            | EST_HUMAN               | 6015894331F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:3948463 5'                              |
| 7884             | 20579           | 33708          | 6.44              | 1.0E-108                             | BE741408.1            | EST_HUMAN               | 6015894331F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:3948463 5'                              |
| 8074             | 20768           | 33897          | 1.38              | 1.0E-106                             | AJ523088.1            | EST_HUMAN               | 601282717F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3604463 5'                              |
| 8527             | 21219           | 34381          | 0.47              | 1.0E-106                             | BE387950.1            | EST_HUMAN               | 601282717F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3604463 5'                              |
| 8527             | 21219           | 34382          | 0.47              | 1.0E-106                             | BE387950.1            | EST_HUMAN               | 601282717F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3604463 5'                              |
| 8807             | 21239           | 34443          | 3.64              | 1.0E-106                             | AI634123.1            | EST_HUMAN               | Q053084_68_KD ISLET CELL AUTOANTIGEN;  |
| 8850             | 21641           | 34788          | 0.58              | 1.0E-106                             | AW838831.1            | EST_HUMAN               | CM4_LT0068-1502010-086-e08 LT0059 Homo sapiens cDNA  |
| 8945             | 21735           | 34889          | 3.28              | 1.0E-106                             | AA625307.1            | EST_HUMAN               | cc67698_s1 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:1354790 3'                            |
| 8945             | 21735           | 34890          | 3.28              | 1.0E-106                             | AA625307.1            | EST_HUMAN               | cc67698_s1 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:1354790 3'                            |
| 9186             | 21858           | 35021          | 1.23              | 1.0E-108                             | A1750447.1            | EST_HUMAN               | cn03a04_1 Homo sapiens cDNA clone NHTBC_cna3a04 random                                       |
| 9320             | 21886           | 35169          | 1.8               | 1.0E-108                             | AI479569.1            | EST_HUMAN               | Itm4102_x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:2160589 3' similar to contains MSR13 |
| 9320             | 21886           | 35170          | 1.8               | 1.0E-108                             | AI479569.1            | EST_HUMAN               | Itm4102_x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:2160589 3' similar to contains MSR13 |
| 9902             | 22551           | 35748          | 1.19              | 1.0E-106                             | BE389234.1            | EST_HUMAN               | 6012823867F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3954403 5'                             |
| 9904             | 22632           | 35841          | 1.09              | 1.0E-106                             | BF027310.1            | EST_HUMAN               | 601671674F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:3954403 5'                              |
| 9904             | 22632           | 35842          | 1.09              | 1.0E-106                             | BF027310.1            | EST_HUMAN               | 601671674F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:3954403 5'                              |
| 9984             | 22632           | 35842          | 1.09              | 1.0E-106                             | BF027310.1            | EST_HUMAN               | 601671674F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:3954403 5'                              |
| 10141            | 22789           | 36003          | 6.22              | 1.0E-106                             | AA604417.1            | EST_HUMAN               | np57b10.s1 NCI_CGAP_B12 Homo sapiens cDNA clone IMAGE:1130385 3'                             |
| 10141            | 22789           | 36004          | 6.22              | 1.0E-106                             | AA604417.1            | EST_HUMAN               | np57b10.s1 NCI_CGAP_B12 Homo sapiens cDNA clone IMAGE:1130385 3'                             |
| 10185            | 22833           | 36047          | 1.6               | 1.0E-106                             | AW382390.1            | EST_HUMAN               | RC0-CT0318-20118-03-41 CT0318 Homo sapiens cDNA  |
| 10358            | 23005           | 36222          | 0.53              | 1.0E-106                             | AL039888.1            | EST_HUMAN               | DKFZp434F0712_1_434 (synonym: Hee3) Homo sapiens cDNA clone DKT7434F0712_5'                  |
| 10479            | 23125           | 36354          | 2.81              | 1.0E-106                             | AL1632022             | NT                      | Homo sapiens chromosome 21 segment 15S21C02  |
| 10812            | 23495           | 36730          | 7.1               | 1.0E-106                             | BF032755.1            | EST_HUMAN               | 6011453461F1 NIH_MGC_88 Homo sapiens cDNA clone IMAGE:3887388 5'                             |
| 10812            | 23495           | 36731          | 7.1               | 1.0E-106                             | BF032755.1            | EST_HUMAN               | 6011453461F1 NIH_MGC_88 Homo sapiens cDNA clone IMAGE:3887388 5'                             |
| 10985            | 23698           | 36925          | 2.22              | 1.0E-106                             | J05200.1              | NT                      | Human ryanodine receptor mRNA, complete cds  |
| 10985            | 23698           | 36926          | 2.22              | 1.0E-106                             | J05200.1              | NT                      | Human ryanodine receptor mRNA, complete cds  |
| 11384            | 23891           | 37292          | 1.91              | 1.0E-106                             | BE257385.1            | EST_HUMAN               | 601108219F1 NIH_MGC_18 Homo sapiens cDNA   |
| 11532            | 24132           | 37436          | 1.35              | 1.0E-106                             | BE010882.1            | EST_HUMAN               | RC5-BN0192-10500-021-B02 BN0192 Homo sapiens cDNA  |
| 11532            | 24132           | 37437          | 1.35              | 1.0E-106                             | BE010882.1            | EST_HUMAN               | RC5-BN0192-10500-021-B02 BN0192 Homo sapiens cDNA  |
| 11581            | 25194           |                | 6.77              | 1.0E-106                             | AW410405.1            | EST_HUMAN               | fm0511.X1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:2861844 5'                                |
| 12193            | 24684           | 31068          | 3.32              | 1.0E-106                             | BE894488.1            | EST_HUMAN               | 601433087F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3918524 5'                              |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe Seq ID No: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 12183            | 24684           | 31069          | 3.32              | 1.0E-106                             | BE894488.1            | EST_HUMAN               | 601433087F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:39188524 5                                     |
| 12408            | 24781           |                | 4.6               | 1.0E-106                             | BE695905.1            | EST_HUMAN               | RC1-CT0249-000800-024-d05 CT0249 Homo sapiens cDNA  |
| 2228             | 13040           |                | 4.42              | 1.0E-107                             | AJ271735.1            | NT                      | Homo sapiens Xq pseudodautosomal region, segment 1/2  |
| 258              | 13068           |                | 1.26              | 1.0E-107                             | X60459.1              | NT                      | Human IFNAR gene for interferon alphabeta receptor  |
| 607              | 13285           |                | 4.03              | 1.0E-107                             | 48268863              | NT                      | Homo sapiens neuronal cell adhesion molecule (NRCAM) mRNA   |
| 616              | 13394           | 26028          | 1.89              | 1.0E-107                             | AF155103.1            | NT                      | Homo sapiens NY-REN-26 antigen mRNA, partial cds  |
| 868              | 13635           | 26305          | 1.52              | 1.0E-107                             | X60459.1              | NT                      | Human IFNAR gene for interferon alphabeta receptor  |
| 948              | 13714           | 26379          | 11.55             | 1.0E-107                             | AF154121.1            | NT                      | Homo sapiens sodium-dependent high-affinity dicarboxylate transporter (NADC3) mRNA, complete cds    |
| 1255             | 14004           | 26873          | 0.73              | 1.0E-107                             | AB032253.1            | NT                      | Homo sapiens BAZ1B mRNA for bromodomain adjacent to zinc finger domain 1B, complete cds             |
| 1682             | 14309           | 26896          | 3.77              | 1.0E-107                             | BF087405.1            | EST_HUMAN               | QV2-HIT0546-1202900-358-d05 HT0540 Homo sapiens cDNA  |
| 1748             | 14488           | 27187          | 1.55              | 1.0E-107                             | AF138275.1            | NT                      | Homo sapiens cathepsin Z precursor (CT52) gene, exon 3  |
| 1832             | 14571           | 27283          | 0.89              | 1.0E-107                             | AB007822.2            | NT                      | Homo sapiens mRNA for KIAA0453 protein, partial cds   |
| 1832             | 14571           | 27284          | 0.89              | 1.0E-107                             | AB007822.2            | NT                      | Homo sapiens mRNA for KIAA0453 protein, partial cds   |
| 2205             | 14933           | 27671          | 0.95              | 1.0E-107                             | U13728.1              | NT                      | Human dipeptidyl peptidase IV (CD26) gene, exon 20  |
| 2362             | 15084           | 27822          | 1.45              | 1.0E-107                             | AW842451.1            | EST_HUMAN               | PMI-CN0031-190100-001-d03 CN0031 Homo sapiens cDNA  |
| 2362             | 15084           | 27823          | 1.45              | 1.0E-107                             | AW842451.1            | EST_HUMAN               | PMI-CN0031-190100-001-d03 CN0031 Homo sapiens cDNA  |
| 2535             | 15250           | 27891          | 1.2               | 1.0E-107                             | BE732460.1            | EST_HUMAN               | 601567619F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3842309 5                                      |
| 2535             | 15250           | 27892          | 1.2               | 1.0E-107                             | BE732460.1            | EST_HUMAN               | 601567619F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3842309 5                                      |
| 3007             | 15773           | 28421          | 3.89              | 1.0E-107                             | AW842451.1            | EST_HUMAN               | PMI-CN0031-190100-001-d03 CN0031 Homo sapiens cDNA  |
| 3007             | 15773           | 28422          | 3.89              | 1.0E-107                             | AW842451.1            | EST_HUMAN               | PMI-CN0031-190100-001-d03 CN0031 Homo sapiens cDNA  |
| 3096             | 16861           | 28502          | 2.63              | 1.0E-107                             | 5902097               | NT                      | Homo sapiens SMT3 (suppressor of mif two 3, yeast) homolog 2 (SMT3H2), mRNA                         |
| 3806             | 16558           | 29190          | 5.14              | 1.0E-107                             | AF020671.1            | NT                      | Homo sapiens myotubularin (MTM1) gene, exon 9   |
| 6537             | 18336           | 31242          | 0.66              | 1.0E-107                             | AW868038.1            | EST_HUMAN               | EST381116 MAGE resequences, MAGK Homo sapiens cDNA  |
| 5775             | 18566           | 31495          | 3.2               | 1.0E-107                             | BE857469.1            | EST_HUMAN               | 601442558F1 NIH_MGC_85 Homo sapiens cDNA clone IMAGE:384894 5                                       |
| 6823             | 19484           | 32566          | 1.45              | 1.0E-107                             | 11431469              | NT                      | Homo sapiens general transcription factor IIIC, polypeptide 1 (alpha subunit, 220kD) (GTF3C1), mRNA |
| 6823             | 19484           | 32507          | 1.45              | 1.0E-107                             | 11431469              | NT                      | Homo sapiens general transcription factor IIIC, polypeptide 1 (alpha subunit, 220kD) (GTF3C1), mRNA |
| 7263             | 18947           | 33023          | 1.42              | 1.0E-107                             | AW503913.1            | EST_HUMAN               | UHF-BN0-af-c-08-0-U1 NIH_MGC_50 Homo sapiens cDNA clone IMAGE:3078810 5                             |
| 7263             | 18947           | 33024          | 1.42              | 1.0E-107                             | AW503913.1            | EST_HUMAN               | UHF-BN0-af-c-08-0-U1 NIH_MGC_50 Homo sapiens cDNA clone IMAGE:3078810 5                             |
| 7429             | 20106           | 33193          | 1.46              | 1.0E-107                             | AT765078.1            | EST_HUMAN               | W586h04_x1 NCI CGAP_Kid11 Homo sapiens cDNA clone IMAGE:2884791 3                                   |
| 7690             | 20354           | 33469          | 0.6               | 1.0E-107                             | AW410961.1            | EST_HUMAN               | TH09611-x2 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:28846524 5                                      |
| 9287             | 22041           | 35213          | 0.95              | 1.0E-107                             | AU122469.1            | EST_HUMAN               | AU122469 MAMMA1 Homo sapiens cDNA clone MAMMA1002433 5  |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 10603            | 23297           | 36537          | 3.18              | 1.0E-107                             | AK92850.1             | EST_HUMAN               | Ig10d08_x1 NCI_OGAP_CLL1 Homo sapiens cDNA clone IMAGE:2108363 3' similar to SW:AACT_DICDI   |
| 10886            | 23548           | 36794          | 14.28             | 1.0E-107                             | L49141.1              | NT                      | P0595 ALPHA-ACTININ 3, NON MUSCULAR;   |
| 10880            | 23560           | 36807          | 1.71              | 1.0E-107                             | BF686511.1            | EST_HUMAN               | Homo sapiens neuroendocrine-specific protein (NSP) gene, exon 4  |
| 11283            | 23954           | 37252          | 6.68              | 1.0E-107                             | BE540550.1            | EST_HUMAN               | 6022123963F1 NIH_MGC_58 Homo sapiens cDNA clone IMAGE:4281039 5'   |
| 11367            | 23178           | 36405          | 5.97              | 1.0E-107                             | 11419701              | NT                      | Homo sapiens HSPC0349 protein (HSPC0349), mRNA   |
| 11367            | 23178           | 36406          | 5.97              | 1.0E-107                             | 11419701              | NT                      | Homo sapiens HSPC0349 protein (HSPC0349), mRNA   |
| 11843            | 24427           | 37788          | 1.38              | 1.0E-107                             | 4506970               | NT                      | Homo sapiens solute carrier family 10 (sodium/bile acid cotransporter family), member 1 (SLC10A1), mRNA  |
| 11843            | 24427           | 37789          | 1.38              | 1.0E-107                             | 4506970               | NT                      | Homo sapiens solute carrier family 10 (sodium/bile acid cotransporter family), member 1 (SLC10A1), mRNA  |
| 12043            | 25328           |                | 5.88              | 1.0E-107                             | AA000415.1            | EST_HUMAN               | 284501.51 Severe retina N2b4-H Homo sapiens cDNA clone IMAGE:361944 3' similar to contains THFR_b1   |
| 835              | 13702           | 28387          | 2.68              | 1.0E-108                             | BE296042.1            | EST_HUMAN               | THR repetitive element;  |
| 1242             | 13891           | 28657          | 1.87              | 1.0E-108                             | Y18000.1              | NT                      | 601177018F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:3532348 5'  |
|                  |                 |                |                   |                                      |                       |                         | Homo sapiens NF2 gene  |
| 2428             | 15149           | 27883          | 4.97              | 1.0E-108                             | BE206894.1            | EST_HUMAN               | bb25b10_x1 NIH_MGC_14 Homo sapiens cDNA clone IMAGE:29863898 3' similar to gb:JX537777 60S RIBOSOMAL PROTEIN L23 (HUMAN); gb:J05277 Mouse hexokinase mRNA, complete cds (MOUSE); |
| 3344             | 16103           | 28755          | 0.71              | 1.0E-108                             | AF032897.1            | NT                      | Homo sapiens potassium channel subunit (HERG-3) mRNA, complete cds   |
| 3344             | 16103           | 28768          | 0.71              | 1.0E-108                             | AF032897.1            | NT                      | Homo sapiens potassium channel subunit (HERG-3) mRNA, complete cds   |
| 4136             | 16878           | 28507          | 1.14              | 1.0E-108                             | AW684438.1            | EST_HUMAN               | hh12a11_x1 NCI_OGAP_GU1 Homo sapiens cDNA clone IMAGE:2972080 3' similar to SW:3BP1_MOUSE P55184 SH3-BINDING PROTEIN 3BP-1.;   |
| 4489             | 17225           | 29853          | 2.18              | 1.0E-108                             | U72981.1              | NT                      | Human hepatocyte nuclear factor 4-alpha gene, exon 2   |
| 4489             | 17225           | 29854          | 2.18              | 1.0E-108                             | U72981.1              | NT                      | Human hepatocyte nuclear factor 4-alpha gene, exon 2   |
| 4752             | 17484           | 30113          | 1.74              | 1.0E-108                             | 7861979               | NT                      | Homo sapiens KIAA0187 gene product (KIAA0187), mRNA  |
| 4896             | 17623           | 30241          | 2.8               | 1.0E-108                             | AJ008005.1            | NT                      | Homo sapiens PSN1 gene, alternative transcript   |
| 63891            | 18191           | 30883          | 1.15              | 1.0E-108                             | AW384694.1            | EST_HUMAN               | RCD1-TT0372-241169-031-d023 HT0372 Homo sapiens cDNA   |
| 5440             | 18239           | 30954          | 1.7               | 1.0E-108                             | BE869016.1            | EST_HUMAN               | 601444922F1 NIH_MGC_65 Homo sapiens cDNA clone IMAGE:3848880 5'  |
| 5440             | 18239           | 30955          | 1.7               | 1.0E-108                             | BE869016.1            | EST_HUMAN               | 601444922F1 NIH_MGC_65 Homo sapiens cDNA clone IMAGE:3848880 5'  |
| 5837             | 18626           |                | 0.89              | 1.0E-108                             | AF012628.1            | NT                      | Homo sapiens familial mental retardation protein 2 (FMR2) gene, exon 20  |
| 6048             | 18828           | 31790          | 6.13              | 1.0E-108                             | AF264717.1            | NT                      | Homo sapiens FYVE domain-containing dual specificity protein phosphatase FYVE-DSP2 mRNA, complete cds  |
| 6048             | 18828           | 31791          | 6.13              | 1.0E-108                             | AF264717.1            | NT                      | Homo sapiens FYVE domain-containing dual specificity protein phosphatase FYVE-DSP2 mRNA, complete  |

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 Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 6169             | 18946           | 31818          | 1.27              | 1.0E-108                             | AJ33289.1             | NT                      | Homo sapiens cavinolin-1/-2 locus, Contig1, D7S522, genes CAV2 (exons 1, 2a, and 2b), CAV1 (exons 1 and 2).       |
| 6265             | 19687           | 31650          | 0.92              | 1.0E-108                             | BF34851.1             | EST_HUMAN               | PM4-CTD403-240700-001<10 CT0403 Homo sapiens cDNA   |
| 6521             | 19287           | 32230          | 0.63              | 1.0E-108                             | AF016708.1            | NT                      | Homo sapiens EG-AP ubiquitin-protein ligase (UBE3A) gene, exon 4  |
| 6521             | 19287           | 32231          | 0.63              | 1.0E-108                             | AF016708.1            | NT                      | Homo sapiens EG-AP ubiquitin-protein ligase (UBE3A) gene, exon 4  |
| 7057             | 19748           | 32811          | 5.82              | 1.0E-108                             | 11431857              | NT                      | Homo sapiens G protein-coupled receptor, family C, group 6, member B (GPRC5B), mRNA                               |
| 7339             | 20020           | 32098          | 3.56              | 1.0E-108                             | 4788333               | NT                      | Homo sapiens delta-6 fatty acid desaturase (FADS2D6) mRNA   |
| 7377             | 20057           | 33137          | 1.16              | 1.0E-108                             | BE262807.1            | EST_HUMAN               | 601113471F1 NIH MGC_16 Homo sapiens cDNA clone IMAGE:4181037 5  |
| 7405             | 20082           | 33184          | 0.84              | 1.0E-108                             | BF522812.1            | EST_HUMAN               | 6023043384F1 NCI CGAP_Bm67 Homo sapiens cDNA clone IMAGE:4181037 5  |
| 7405             | 20082           | 33165          | 0.84              | 1.0E-108                             | BF522812.1            | EST_HUMAN               | 6023043384F1 NCI CGAP_Bm67 Homo sapiens cDNA clone IMAGE:4181037 5  |
| 7863             | 20658           |                | 1.68              | 1.0E-108                             | AF08500.1             | NT                      | Homo sapiens connective tissue growth factor-like protein precursor, mRNA, complete cds                           |
| 8014             | 20709           | 32838          | 0.48              | 1.0E-108                             | AW408694.1            | EST_HUMAN               | U1-HF-BM0-ads-e-12-0-U1.1 NIH MGC_38 Homo sapiens cDNA clone IMAGE:3062878 5                                      |
| 8014             | 20709           | 32839          | 0.48              | 1.0E-108                             | AW408694.1            | EST_HUMAN               | U1-HF-BM0-ads-e-12-0-U1.1 NIH MGC_38 Homo sapiens cDNA clone IMAGE:3062878 5                                      |
| 8845             | 21638           | 34781          | 0.75              | 1.0E-108                             | AF203897.1            | NT                      | Homo sapiens ET-5 family transcription factor EH-F (EHF) mRNA, complete cds                                       |
| 8894             | 21674           | 34823          | 0.54              | 1.0E-108                             | N44974.1              | EST_HUMAN               | Y35h10.11 Scores melanocyte 2n1SH Homo sapiens cDNA clone IMAGE:273283 5 similar to PIR-A45773                    |
| 10565            | 20368           | 33481          | 1.73              | 1.0E-108                             | B6535227.1            | EST_HUMAN               | 601058768F1 NIH MGC_10 Homo sapiens cDNA clone IMAGE:3445381 5  |
| 10731            | 17911           | 30597          | 1.98              | 1.0E-108                             | Y12480.1              | NT                      | Homo sapiens mRNA for Golgi-associated microtubule-binding protein (GMAP-210)                                     |
| 10988            | 23671           | 36928          | 1.39              | 1.0E-108                             | AF223591.1            | NT                      | Homo sapiens calcium channel epsilon E subunit (CACNA1E) gene, exons 7-49, and partial cds, alternatively spliced |
| 11239            | 23902           | 37191          | 3.82              | 1.0E-108                             | AW986185.1            | EST_HUMAN               | EST1378258 IMAGE resequences, MAGI Homo sapiens cDNA  |
| 11294            | 23955           | 37253          | 2.2               | 1.0E-108                             | AV7708790.1           | EST_HUMAN               | AV708780 ADC Homo sapiens cDNA clone ADCAEE03 5   |
| 11294            | 23955           | 37254          | 2.2               | 1.0E-108                             | AV7708790.1           | EST_HUMAN               | AV708780 ADC Homo sapiens cDNA clone ADCAEE03 5   |
| 11343            | 24033           |                | 1.67              | 1.0E-108                             | 11441465              | NT                      | Homo sapiens COL4A6 gene for $\alpha$ IV(VI) collagen, exon 23  |
| 11405            | 24054           | 37358          | 1.68              | 1.0E-108                             | DB3539.1              | NT                      | Homo sapiens mRNA for FLJ00937 protein, partial cds   |
| 12204            | 24671           | 31072          | 2.41              | 1.0E-108                             | AK024447.1            | EST_HUMAN               | 602018571F1 NCI CGAP_Bm67 Homo sapiens cDNA clone IMAGE:4154297 5   |
| 12583            | 24906           |                | 6.32              | 1.0E-108                             | BF346358.1            | EST_HUMAN               | IL2-UM0077-280400-079-D08 UM0077 Homo sapiens cDNA  |
| 41               | 12869           | 25488          | 0.87              | 1.0E-108                             | AW80316.1             | EST_HUMAN               | Human mRNA for KIAA0220 gene, partial cds   |
| 62               | 12890           | 25523          | 0.97              | 1.0E-108                             | D85974.1              | NT                      | Homo sapiens reticulocalbin 1, EF-hand calcium binding domain (RCN1), mRNA  |
| 220              | 13031           | 26667          | 1.59              | 1.0E-108                             | 11438391              | NT                      | Homo sapiens tetra-tricopeptide repeat domain 2 (TTC2) mRNA   |
| 454              | 13240           | 25873          | 6.59              | 1.0E-108                             | 4507712               | NT                      | Homo sapiens mRNA for KIAA0369 protein, partial cds   |
| 684              | 13384           | 25692          | 29.8              | 1.0E-108                             | AB023216.1            | NT                      | Homo sapiens mRNA for KIAA0369 protein, partial cds   |
| 584              | 13384           | 26683          | 28.9              | 1.0E-108                             | AB023216.1            | NT                      | Homo sapiens nucleolar phosphoprotein B23 (NPMT) mRNA, complete cds   |
| 1180             | 13933           | 26598          | 10.97             | 1.0E-109                             | M28698.1              | NT                      | Homo sapiens nucleolar phosphoprotein B23 (NPMT) mRNA, complete cds   |

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|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 1181             | 138333          | 26598          |                   | 4                                    | 1.0E-109 M28689.1     | NT                      | Homo sapiens nucleolar phosphoprotein B23 (NPM1) mRNA, complete cds   |
| 1533             | 142280          | 26967          |                   | 3.31                                 | 1.0E-109 BE223673.1   | EST_HUMAN               | 601186822F2 NIH_MGC_15 Homo sapiens cDNA clone IMAGE-2858636 5'   |
| 1633             | 142280          | 26968          |                   | 3.31                                 | 1.0E-109 BE223673.1   | EST_HUMAN               | 601186822F2 NIH_MGC_16 Homo sapiens cDNA clone IMAGE-2858636 5'   |
| 1867             | 14605           | 27315          |                   | 3.3                                  | 1.0E-109 D13643.2     | NT                      | Homo sapiens mRNA for KIAA0118 protein, partial cds   |
| 2237             | 14985           | 27705          |                   | 1.78                                 | 1.0E-109 AL163284.2   | NT                      | Homo sapiens chromosome 21 segment HS22TC084  |
| 2248             | 14976           | 27714          |                   | 1.89                                 | 1.0E-109 Y17123.1     | NT                      | Homo sapiens SNF5/NII gene, exon 6  |
| 26228            | 16340           | 28084          |                   | 3.98                                 | 1.0E-109 AI0222328.1  | EST_HUMAN               | TR:002197_002197 CIRCULATING CATHODIC ANTIGEN; TR:002197_002197 CIRCULATING S1 Home sapiens cDNA clone IMAGE-1654536 3' similar to cw95a01_x1 Scareas_fetal_liver_spleen_1NF1S_S1 Home sapiens cDNA clone IMAGE-1654536 3' similar to cw95a01_x1 Scareas_fetal_liver_spleen_1NF1S_S1 Home sapiens cDNA clone IMAGE-1654536 3' similar to cw95a01_x1 Scareas_fetal_liver_spleen_1NF1S_S1 Home sapiens cDNA clone IMAGE-1654536 3' similar to ZINC FINGER PROTEIN ZNF43 |
| 26228            | 16340           | 28085          |                   | 3.98                                 | 1.0E-109 AI0222328.1  | EST_HUMAN               | TR:002197_002197 CIRCULATING CATHODIC ANTIGEN; TR:002197_002197 CIRCULATING GUCA1A mRNA   |
| 26229            | 16341           | 28088          |                   | 2.07                                 | 1.0E-109 4504208      | NT                      | Homo sapiens guanylate cyclase activator 1A (retina) (GUCA1A) mRNA  |
| 3054             | 15820           | 28484          |                   | 2.22                                 | 1.0E-109 NB35180.1    | EST_HUMAN               | 12818F Human fetal heart Lambda ZAP Express cDNA clone J2818 6' similar to ZINC FINGER PROTEIN ZNF43  |
| 3383             | 16142           | 28799          |                   | 3.14                                 | 1.0E-109 AW893182.1   | EST_HUMAN               | CMS-AN0009-190400-150-410 NN0009 Homo sapiens cDNA  |
| 3383             | 16142           | 28800          |                   | 3.14                                 | 1.0E-109 AW893182.1   | EST_HUMAN               | CMS-AN0009-190400-150-410 NN0009 Homo sapiens cDNA, complete cds  |
| 3508             | 16284           | 28918          |                   | 1.21                                 | 1.0E-109 AF240698.1   | NT                      | Homo sapiens retinal dehydrogenase homolog isoform-1 (RDH1) mRNA  |
| 3648             | 16303           | 28953          |                   | 0.9                                  | 1.0E-109 M37928.1     | NT                      | Homo sapiens adenosine monophosphate deaminase 1 (AMPD1) gene, exons 8-10   |
| 3548             | 16303           | 28954          |                   | 0.9                                  | 1.0E-109 M37928.1     | NT                      | Homo sapiens adenosine monophosphate deaminase 1 (AMPD1) gene, exons 8-10   |
| 3623             | 16575           |                |                   | 2.59                                 | 1.0E-109 BE146144.1   | EST_HUMAN               | MRO-HT0209-110400-103-404 HT0209 Homo sapiens cDNA  |
| 3974             | 16723           | 29357          |                   | 1.42                                 | 1.0E-109 AB011181.2   | NT                      | Homo sapiens mRNA for KIAA0639 protein, partial cds   |
| 3974             | 16723           | 29358          |                   | 1.42                                 | 1.0E-109 AB011181.2   | NT                      | TR:002197_002197 CIRCULATING S1 Home sapiens cDNA clone IMAGE-2239330 3' similar to WP-F53A28   |
| 4127             | 16869           | 29497          |                   | 3.88                                 | 1.0E-109 AR856417.1   | EST_HUMAN               | CE16100 : ntgc12_s1_NCI_CGAP_Pt22_Homo sapiens cDNA clone IMAGE-12182623' similar to SW:GTT2_HUMAN  |
| 4141             | 16883           | 29512          |                   | 1.02                                 | 1.0E-109 AA682274.1   | EST_HUMAN               | P30712 GLUTATHIONE S-TRANSFERASE THETA 2;   |
| 4141             | 16883           | 29513          |                   | 1.02                                 | 1.0E-109 AA682274.1   | EST_HUMAN               | P30712 GLUTATHIONE S-TRANSFERASE THETA 2;   |
| 4371             | 17109           | 29744          |                   | 2.48                                 | 1.0E-109 4504208      | NT                      | Homo sapiens KIAA0377 gene product (KIAA0377), mRNA   |
| 4561             | 17296           | 29823          |                   | 1.69                                 | 1.0E-109 7652083      | NT                      | TR:002197_002197 Scareas infant brain 1NIB Homo sapiens cDNA clone IMAGE-53057 5'   |
| 4867             | 17595           | 30218          |                   | 1.27                                 | 1.0E-109 R15400.1     | EST_HUMAN               | ye48606.1 Scareas infant brain 1NIB Homo sapiens cDNA clone IMAGE-2858636 5'  |
| 4892             | 17715           | 30320          |                   | 1.39                                 | 1.0E-109 BE283673.1   | EST_HUMAN               | 601186822F2 NIH_MGC_16 Homo sapiens cDNA clone IMAGE-2858636 5'   |
| 4892             | 17715           | 30321          |                   | 1.39                                 | 1.0E-109 BE283673.1   | EST_HUMAN               | 601186822F2 NIH_MGC_16 Homo sapiens cDNA clone IMAGE-2858636 5'   |
| 5167             | 17876           | 30534          |                   | 0.81                                 | 1.0E-109 AJJ37282.1   | EST_HUMAN               | AU137282 PLACE1 Homo sapiens cDNA clone PLACE1006159 5'   |
| 5179             | 17988           | 30503          |                   | 1.06                                 | 1.0E-109 BF673718.1   | EST_HUMAN               | 602136446F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE-4272922 5'   |

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Single Exon Probes Expressed in Brain

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|------------------|-------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|---|
| 52330            | 180336      | 30662          | 3.09              | 1.0E-109                   | 5174622               | NT                      | Homo sapiens placental protein 11 (serine proteinase) (P11) mRNA                              |
| 55220            | 183118      |                | 1.11              | 1.0E-109                   | BE178350..1           | EST_HUMAN               | RC1-H70615-200400-022-d04 HT0815 Homo sapiens cDNA  |
| 58338            | 250778      | 31550          | 0.84              | 1.0E-109                   | BF379888..1           | EST_HUMAN               | CW1-JT0038-060900-389-h07 UT0038 Homo sapiens cDNA  |
| 58907            | 183118      |                | 1.6               | 1.0E-109                   | BE178356..1           | EST_HUMAN               | RC1-H70616-200400-022-d04 HT0815 Homo sapiens cDNA  |
| 7140             | 18827       | 32898          | 0.97              | 1.0E-109                   | AB048811..1           | NT                      | Homo sapiens mRNA for KIAA1581 protein, partial cds   |
| 7484             | 20138       | 33230          | 3.99              | 1.0E-109                   | 11432574              | NT                      | Homo sapiens AT-binding transcription factor 1 (ATBF1), mRNA                                  |
| 7486             | 20140       | 33232          | 6.28              | 1.0E-109                   | BF182707..1           | EST_HUMAN               | 601809485F1 NIH_MGC_18 Homo sapiens cDNA clone IMAGE:4040279 5'                               |
| 7486             | 20140       | 33233          | 5.28              | 1.0E-109                   | BF182707..1           | EST_HUMAN               | 601809485F1 NIH_MGC_18 Homo sapiens cDNA clone IMAGE:4040279 5'                               |
| 7874             | 20338       | 33451          | 0.67              | 1.0E-109                   | BE263287..1           | EST_HUMAN               | 601145017F2 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:3160220 5'                               |
| 8073             | 20767       | 33898          | 1.48              | 1.0E-109                   | AL048784..1           | NT                      | Novel human gene mapping to chromosome 13   |
| 8183             | 20877       | 34014          | 0.89              | 1.0E-109                   | AW748130..1           | EST_HUMAN               | PM0-BT0340-081288-002-605 BT0340 Homo sapiens cDNA  |
| 8555             | 21247       |                | 2.77              | 1.0E-109                   | AA077498..1           | EST_HUMAN               | 7B18101 Chromosome 7 fetal brain cDNA library Homo sapiens cDNA clone 7B18101                 |
| 8633             | 21325       | 34466          | 8.42              | 1.0E-109                   | BE787540..1           | EST_HUMAN               | 601478417F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3882124 5'                               |
| 8633             | 21325       | 34467          | 8.42              | 1.0E-109                   | BE787540..1           | EST_HUMAN               | 601478417F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3882124 5'                               |
| 8876             | 21567       | 34711          | 0.58              | 1.0E-109                   | BE145672..1           | EST_HUMAN               | LOHT0205-071189-142-g01 HT0205 Homo sapiens cDNA  |
| 9137             | 21825       | 94980          | 1.91              | 1.0E-109                   | HB4860..1             | EST_HUMAN               | y80-g081 r1 Scores retina N2aBIR Homo sapiens cDNA clone IMAGE:222110 5' similar to SP-A53491 |
| 9250             | 21829       | 35101          | 0.63              | 1.0E-109                   | BE397068..1           | EST_HUMAN               | A53491 BUMETANIDE-SENSITIVE NA-K-C1 COTRANSporter - SPINY;                                    |
| 9250             | 21929       | 35102          | 0.63              | 1.0E-109                   | BE397068..1           | EST_HUMAN               | 601289780F1 NIH_MGC_8 Homo sapiens cDNA clone IMAGE:3620030 5'                                |
| 8384             | 22046       | 35218          | 2.64              | 1.0E-109                   | FE6604..1             | EST_HUMAN               | 601289780F1 NIH_MGC_8 Homo sapiens cDNA clone IMAGE:3620030 5'                                |
| 10873            | 23364       | 36606          | 1.71              | 1.0E-109                   | BE540909..1           | EST_HUMAN               | HSC1EC121 normalized infant brain cDNA Homo sapiens cDNA clone c-lect12                       |
| 10873            | 23364       | 36607          | 1.71              | 1.0E-109                   | BE540909..1           | EST_HUMAN               | 601063030F1 NIH_MGC_10 Homo sapiens cDNA clone IMAGE:3449599 5'                               |
| 10710            | 23399       | 36636          | 15.79             | 1.0E-109                   | BF694683..1           | EST_HUMAN               | 602080724F2 NIH_MGC_81 Homo sapiens cDNA clone IMAGE:4245341 5'                               |
| 10888            | 23568       | 36818          | 1.55              | 1.0E-109                   | 7882279               | NT                      | Homo sapiens KIAA0744 gene product; histone deacetylase 7 (KIAA0744), mRNA                    |
| 10888            | 23568       | 36819          | 1.55              | 1.0E-109                   | 7882279               | NT                      | Homo sapiens KIAA0744 gene product; histone deacetylase 7 (KIAA0744), mRNA                    |
| 11069            | 23739       | 37013          | 1.8               | 1.0E-109                   | AU121370..1           | EST_HUMAN               | AU121370 HEMBB1 Homo sapiens cDNA clone HEMBB1002680 5'                                       |
| 11342            | 24032       | 37336          | 2.72              | 1.0E-109                   | 45012838              | NT                      | Homo sapiens Chediak-Higashi syndrome 1 (CHS1) mRNA   |
| 11383            | 23880       | 37291          | 11.6              | 1.0E-109                   | W16510..1             | EST_HUMAN               | z6018r1.r1 Scores, fatal lung, NbHL18W Homo sapiens cDNA clone IMAGE:301439 5' similar to     |
| 11685            | 24280       | 37602          | 1.48              | 1.0E-109                   | 11418618              | NT                      | PIRS:343969 S43969 p54-beta stress-activated protein kinases - rat ;                          |
| 11848            | 24432       | 37773          | 1.27              | 1.0E-109                   | BF339540..1           | EST_HUMAN               | Homo sapiens single-minded (Drosophila) homolog 1 (SIM1), mRNA                                |
| 11848            | 24432       | 37774          | 1.27              | 1.0E-109                   | BF339540..1           | EST_HUMAN               | 602039003F1 NCI CGAP_Bm84 Homo sapiens cDNA clone IMAGE:4188753 5'                            |
| 12112            | 14976       | 27714          | 2.1               | 1.0E-109                   | Y17123..1             | NT                      | Homo sapiens SNF5/JN11 gene, exon 6   |
| 12328            | 14976       | 27714          | 2.73              | 1.0E-109                   | Y17123..1             | NT                      | Homo sapiens SNF5/JN11 gene, exon 6   |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|--|
|                  |                 |                |                   |                                      |                       |                         |  |  |
| 12443            | 24813           | 31047          | 2.08              | 1.0E-109                             | AB011399.1            | NT                      | Homo sapiens gene for AF-6, complete cds   |  |
| 3                | 12831           | 25444          | 1.65              | 1.0E-110                             | 7549804               | NT                      | Homo sapiens deodinase, iodothyronine, type II (DIO2), transcript variant 2, mRNA  |  |
| 36               | 12884           | 25482          | 4.71              | 1.0E-110                             | 5803073               | NT                      | Homo sapiens leucine-zipper-like transcriptional regulator, 1 (LZTR1), mRNA  |  |
| 36               | 12884           | 26483          | 4.71              | 1.0E-110                             | 5803073               | NT                      | Homo sapiens leucine-zipper-like transcriptional regulator, 1 (LZTR1), mRNA  |  |
| 79               | 12895           | 25543          | 0.7               | 1.0E-110                             | C04488.1              | EST_HUMAN               | C04498 Human heart cDNA clone (Yokakura) Homo sapiens cDNA clone IMAGE:3NHCC3467   |  |
| 107              | 12831           | 25444          | 2.26              | 1.0E-110                             | 7549804               | NT                      | Homo sapiens deodinase, iodothyronine, type II (DIO2), transcript variant 2, mRNA  |  |
| 514              | 13298           | 26530          | 1.54              | 1.0E-110                             | UB4550.1              | NT                      | Human dystrobrevin (DTN) gene, exon 20   |  |
| 1157             | 13912           | 26675          | 0.8               | 1.0E-110                             | 5031620               | NT                      | Homo sapiens cathepsin receptor-like (CALCR1) mRNA   |  |
| 1256             | 14005           | 26674          | 0.8               | 1.0E-110                             | AB032253.1            | NT                      | Homo sapiens BAZ1B mRNA for bromodomain adjacent to zinc finger domain 1B, complete cds  |  |
| 1914             | 14661           | 27381          | 1.19              | 1.0E-110                             | BE379477.1            | EST_HUMAN               | 601237545F1 NIH_MGC_441 Homo sapiens cDNA clone IMAGE:36098883 5'  |  |
| 2051             | 14784           |                | 1.6               | 1.0E-110                             | BFF08898.1            | EST_HUMAN               | U+H-B14-aos-b-05-UJL51 NCI CGAP_Sub8 Homo sapiens cDNA clone IMAGE:3085784 3'  |  |
| 2945             | 15613           |                | 1                 | 1.0E-110                             | 4503088               | NT                      | Homo sapiens chondroitin sulfate proteoglycan 4 (metanome-associated) (CSPG4), mRNA  |  |
| 3189             | 15952           | 286503         | 1.49              | 1.0E-110                             | 11436041              | NT                      | Homo sapiens pregnancy-zone protein (PZP), mRNA  |  |
| 3189             | 15952           | 286504         | 1.49              | 1.0E-110                             | 11436041              | NT                      | Homo sapiens pregnancy-zone protein (PZP), mRNA  |  |
| 4031             | 16776           | 29407          | 1.09              | 1.0E-110                             | BE018556.1            | EST_HUMAN               | b682a05.y1 NIH_MGC_10 Homo sapiens cDNA clone IMAGE:3048848 5' similar to TR:O63312 O80312   |  |
| 4591             | 17326           | 29851          | 2.14              | 1.0E-110                             | AM017213.1            | EST_HUMAN               | KIAA0568 PROTEIN; Q32B10X1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:1627983 3' similar to SW:N121_RAT P52591 NUCLEAR ENVELOPE PORE MEMBRANE PROTEIN POM 121 ; |  |
| 4606             | 17341           | 28972          | 3.9               | 1.0E-110                             | AU0117812.1           | EST_HUMAN               | AU117812 HEMBA1 Homo sapiens cDNA clone HEMBA10022241 5'   |  |
| 4916             | 17644           |                | 2.7               | 1.0E-110                             | 7682441               | NT                      | Homo sapiens KIAA1002 protein (KIAA1002), mRNA   |  |
| 5212             | 18020           | 30642          | 2.63              | 1.0E-110                             | BE289404.1            | EST_HUMAN               | 601118710F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:3028538 5'  |  |
| 5639             | 18434           | 31347          | 0.8               | 1.0E-110                             | BE621069.1            | EST_HUMAN               | 6011483677F1 NIH_MGC_70 Homo sapiens cDNA clone IMAGE:3889578 5'   |  |
| 5656             | 18461           | 31364          | 8.61              | 1.0E-110                             | 11418323              | NT                      | Homo sapiens hypothetical protein FLJ10300 (FLJ10300), mRNA  |  |
| 5656             | 18451           | 31365          | 8.61              | 1.0E-110                             | 11418323              | NT                      | Homo sapiens hypothetical protein FLJ10300 (FLJ10300), mRNA  |  |
| 6817             | 25098           | 32395          | 8.08              | 1.0E-110                             | M65112.1              | NT                      | Human cystic fibrosis transmembrane conductance regulator (CFTR) gene, exon 7  |  |
| 7002             | 19894           | 32746          | 0.8               | 1.0E-110                             | U08888.1              | NT                      | Human GS2 gene, exon 2   |  |
| 7002             | 19894           | 32747          | 0.8               | 1.0E-110                             | U08888.1              | NT                      | Human GS2 gene, exon 2   |  |
| 7224             | 19809           | 32983          | 0.74              | 1.0E-110                             | AB680289.1            | EST_HUMAN               | P50549 ETS TRANSLATION VARIANT 1;  |  |
| 7325             | 20008           | 33085          | 6.9               | 1.0E-110                             | AV714276.1            | EST_HUMAN               | AV714276 DCB Homo sapiens cDNA clone DCBGCE01 5'   |  |
| 7325             | 20008           | 33086          | 6.9               | 1.0E-110                             | AV714276.1            | EST_HUMAN               | AV714276 DCB Homo sapiens cDNA clone DCBGCE01 5'   |  |
| 7355             | 20036           | 33114          | 3.21              | 1.0E-110                             | AB020675.1            | NT                      | Homo sapiens mRNA for KIAA0888 Protein, partial cds  |  |
| 7469             | 20143           | 33225          | 0.83              | 1.0E-110                             | AV7137823.1           | EST_HUMAN               | AU137823 PLACE1 Homo sapiens cDNA clone PLACE1007511 5'  |  |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|---|
| 9234             | 21613           | 350877         | 7.88              | 1.0E-110                         | BE302594.1            | EST_HUMAN               | hs68f01.y1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:2805561 5' similar to TR:077258 077258      |
| 8476             | 22129           | 352008         | 2.39              | 1.0E-110                         | AW838394.1            | EST_HUMAN               | EG:114D9.2 PROTEIN; QV2H_T0053-020400-119-ed04 LT0063 Homo sapiens cDNA                         |
| 10221            | 22869           | 36081          | 3.45              | 1.0E-110                         | 11432732              | NT                      | Homo sapiens galactokinase 2 (GALK2), mRNA  |
| 10848            | 23339           | 38578          | 3.84              | 1.0E-110                         | Y12237.1              | NT                      | H-sapiens mRNA for myotonic dystrophy protein kinase like protein                               |
| 10887            | 23567           | 38816          | 3.75              | 1.0E-110                         | BE734357.1            | EST_HUMAN               | 60115685804F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3840433 5'                               |
| 10887            | 23567           | 38817          | 3.75              | 1.0E-110                         | BE734357.1            | EST_HUMAN               | 60115685804F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3840433 5'                               |
| 11420            | 23187           | 38418          | 2.45              | 1.0E-110                         | AA446529.1            | EST_HUMAN               | ZW870f02.1x1 Soares, testis_NIH1 Homo sapiens cDNA clone IMAGE:3924548 5'                       |
| 11839            | 24498           |                | 4.54              | 1.0E-110                         | BE897218.1            | EST_HUMAN               | G1145816 FR3P54:  |
| 12061            | 24576           |                | 11.71             | 1.0E-110                         | AW062258.1            | EST_HUMAN               | 6011439784F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3924548 5'                                |
| 12280            | 24720           |                | 1.44              | 1.0E-110                         | AB011389.1            | NT                      | Homo sapiens gene for AF-8, complete cds  |
| 12346            | 24753           |                | 1.35              | 1.0E-110                         | A1127761.1            | EST_HUMAN               | 0331c12.1x1 Soares, pregnant uterus_NbHf1U Homo sapiens cDNA                                    |
| 12429            | 25339           |                | 3.25              | 1.0E-110                         | BF384546.1            | EST_HUMAN               | PM3-NIN1082-140800-006112 NN1082 Homo sapiens cDNA  |
| 12701            | 14784           |                | 1.45              | 1.0E-110                         | BF598898.1            | EST_HUMAN               | U+H-B14-aes-b-05-0-U1.s1 NCI_CGAP_Sub8 Homo sapiens cDNA  |
| 170              | 12983           |                | 10.84             | 1.0E-111                         | U43701.1              | NT                      | Human ribosomal protein L23a mRNA, complete cds   |
| 181              | 13004           | 25845          | 1.05              | 1.0E-111                         | 47589807              | NT                      | Human GTPase activating protein-like (NGAP) mRNA  |
| 718              | 13492           |                | 2.38              | 1.0E-111                         | BF036327.1            | EST_HUMAN               | 601458531F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3862098 5'                                 |
| 726              | 13500           | 26154          | 5.13              | 1.0E-111                         | 83693092              | NT                      | Homo sapiens cat eye syndrome critical region gene 1 (CECR1), mRNA                              |
| 906              | 13573           | 26338          | 3.82              | 1.0E-111                         | M25142.1              | NT                      | Human cardiac alpha-myosin heavy chain (MYH6) gene, exons 32 to 34                              |
| 1624             | 14371           | 27080          | 1.43              | 1.0E-111                         | 7682177               | NT                      | Homo sapiens KIAA0555 gene product (KIAA0555), mRNA   |
| 2234             | 14982           | 27701          | 1.02              | 1.0E-111                         | AF036126.1            | NT                      | Homo sapiens collagen type X alpha 1 chain (COL9A1) gene, exons 29, 30, 31, and 32              |
| 4150             | 168892          | 28522          | 1.08              | 1.0E-111                         | 7661569               | NT                      | Homo sapiens DKEZP434D156 protein (DKEZP434D156), mRNA  |
| 4295             | 17034           | 28982          | 4.38              | 1.0E-111                         | K02268.1              | NT                      | Human enkephalin B (enkB) gene, exon 4 and 3' flank and complete cds                            |
| 4691             | 17425           | 30057          | 8.36              | 1.0E-111                         | 4505778               | NT                      | Homo sapiens phosphorylase kinase, alpha 1 (muscle) (IPHK1), mRNA                               |
| 5544             | 18341           | 31249          | 1.09              | 1.0E-111                         | BE867939.1            | EST_HUMAN               | 601443680F1 NIH_MGC_65 Homo sapiens cDNA clone IMAGE:3867855 5'                                 |
| 5942             | 18724           | 31683          | 1.98              | 1.0E-111                         | AB844676.1            | EST_HUMAN               | RELATED PROTEIN RAL-A (HUMAN)   |
| 65590            | 18343           | 32387          | 1.18              | 1.0E-111                         | AI040762.1            | EST_HUMAN               | DKFZp494C1815_r1_434 (synonym: hs63) Homo sapiens cDNA clone IMAGE:2728525 5'                   |
| 6709             | 19624           | 32688          | 1.06              | 1.0E-111                         | AW294648.1            | EST_HUMAN               | U+H-BW0-ef-d-03-0-U1.s1 NCI_CGAP_Sub8 Homo sapiens cDNA   |
| 7347             | 20028           | 33104          | 2.86              | 1.0E-111                         | BF388228.1            | EST_HUMAN               | IL2-NT01-280700-114-E03 NT0101 Homo sapiens cDNA  |
| 7433             | 20110           | 33198          | 0.62              | 1.0E-111                         | A1761228.1            | EST_HUMAN               | WIB6801.X1 NCI_CGAP_Kid5 Homo sapiens cDNA clone IMAGE:2308405 5' similar to gtr:M28883 RAS-CYT |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLASTE Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|-------------------------------------|-----------------------|-------------------------|--|
| 7514             | 20185           | 33279          | 0.6               | 1.0E-111                            | U80017.1              | NT                      | Homo sapiens basic transcription factor 2 p44 (hif2p44) gene, partial cds, neuronal apoptosis inhibitory protein (napip) and survival motor neuron protein (smn) genes, complete cds<br>2579303_r1 NCI CGAP GC81 Homo sapiens cDNA clone IMAGE:703732_5 similar to TR:G1256410 |
| 7883             | 20688           | 33815          | 0.73              | 1.0E-111                            | AA278888.1            | EST_HUMAN               | G1256410_11-ZINC-FINGER TRANSCRIPTION FACTOR_1   |
| 7883             | 20688           | 33816          | 0.73              | 1.0E-111                            | AA278888.1            | EST_HUMAN               | G1256410_11-ZINC-FINGER TRANSCRIPTION FACTOR_1   |
| 8088             | 20782           | 33912          | 0.62              | 1.0E-111                            | 11421898              | NT                      | Homo sapiens protein x0001 (LOC61185), mRNA  |
| 8139             | 20633           | 33987          | 3.28              | 1.0E-111                            | U865533.1             | NT                      | Human beta4-integrin (ITGB4) gene, exon 13   |
| 8570             | 21271           | 34409          | 0.79              | 1.0E-111                            | 11420516              | NT                      | Homo sapiens nuclear factor of activated T-cells, cytoplasmic 2 (NFATC2), mRNA   |
| 8874             | 21368           | 34513          | 0.73              | 1.0E-111                            | AK024453.1            | NT                      | Homo sapiens mRNA for FLJ00045 protein, partial cds  |
| 8707             | 21389           |                | 1.57              | 1.0E-111                            | AF177987.1            | NT                      | Homo sapiens cone sodium-calcium exchanger splice variant (NCXQ) mRNA, complete cds  |
| 8708             | 21400           |                | 8.65              | 1.0E-111                            | BF214902.1            | EST_HUMAN               | 601847_132P1 NIH MGC 65 Homo sapiens cDNA clone IMAGE:4078303_5'   |
| 8782             | 21474           | 34620          | 12.8              | 1.0E-111                            | X17033.1              | NT                      | Human mRNA for integrin alpha-2 subunit  |
| 8782             | 21474           | 34621          | 12.9              | 1.0E-111                            | X17033.1              | NT                      | Human mRNA for integrin alpha-2 subunit  |
| 8898             | 21676           | 34825          | 2.8               | 1.0E-111                            | AF091395.1            | NT                      | Homo sapiens Tfrc isoform mRNA, complete cds   |
| 8217             | 21896           | 35068          | 0.49              | 1.0E-111                            | BF2332210.1           | EST_HUMAN               | QV2-BT0817-270800-398-006 BT0817-Homo sapiens cDNA clone IMAGE:825170_3' similar to gb:U09235<br>886892_61 NCI CGAP GC81 Homo sapiens cDNA clone IMAGE:825170_3' similar to gb:U09235  |
| 10052            | 22700           | 35917          | 3.21              | 1.0E-111                            | AA804180.1            | EST_HUMAN               | VACUOLAR ATP SYNTHASE CATALYTIC SUBUNIT A, UBIQUITOUS (HUMAN);   |
| 10980            | 22728           |                | 2.4               | 1.0E-111                            | D10083.1              | NT                      | Homo sapiens Rcat11 gene, retrovirus-like element  |
| 10172            | 22820           | 36038          | 6.24              | 1.0E-111                            | AA131248.1            | EST_HUMAN               | NbHPU_Homo sapiens cDNA clone IMAGE:503545_5'  |
| 10973            | 23649           | 36902          | 4.25              | 1.0E-111                            | U86159.1              | NT                      | Human thrombopoietin receptor (MPL) gene, exons 1,2,3,4,5 and 6  |
| 11465            | 24088           | 37378          | 2.74              | 1.0E-111                            | AI761071.1            | EST_HUMAN               | cN07e11_11 Normal Human Trabecular Bone Cells Homo sapiens cDNA clone NHTBC_cN07e11_random   |
| 11897            | 24484           | 37802          | 3.72              | 1.0E-111                            | 11417801              | NT                      | Homo sapiens meningioma (disrupted in balanced translocation) 1 (MN1), mRNA  |
| 12424            | 24800           | 31040          | 1.51              | 1.0E-111                            | AV708482.1            | EST_HUMAN               | AV708482 ADC-H_Homo sapiens cDNA clone ADCAOB08_5'   |
| 12672            | 17914           | 30599          | 1.56              | 1.0E-111                            | AB035358.1            | NT                      | Homo sapiens mRNA for neureolin-1-alpha Protein, complete cds  |
| 594              | 13372           | 26001          | 1.28              | 1.0E-112                            | 4501854               | NT                      | Homo sapiens acetyl-Coenzyme A carboxylase beta (ACACB), mRNA  |
| 596              | 13374           | 26003          | 12.56             | 1.0E-112                            | U29103.1              | NT                      | Human steroidogenic acute regulatory protein (STAR) gene, exon 5   |
| 596              | 13374           | 26004          | 12.56             | 1.0E-112                            | U29103.1              | NT                      | Human steroidogenic acute regulatory protein (STAR) gene, exon 5   |
| 617              | 13395           | 26029          | 1.86              | 1.0E-112                            | BF509039.1            | EST_HUMAN               | U+HB4-acg-04-0-JI_51 NCI CGAP_Sub8 Homo sapiens cDNA clone IMAGE:3086023_3'  |
| 617              | 13395           | 26030          | 1.86              | 1.0E-112                            | BF509039.1            | EST_HUMAN               | U+HB4-acg-04-0-JI_51 NCI CGAP_Sub8 Homo sapiens cDNA clone IMAGE:3086023_3'  |
| 981              | 13748           | 26408          | 8.84              | 1.0E-112                            | AF157023.1            | NT                      | Homo sapiens HTRA serine protease (PRSS11) gene, complete cds  |
| 1040             | 13800           | 26458          | 2.2               | 1.0E-112                            | P22742                | SWISSPROT               | ZINC FINGER PROTEIN_135  |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Meet Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|---|--|
| 1679             | 14423           | 27117          | 4.39              | 1.0E-112                   | 7092125 NT            | Homo sapiens KIAA0440 protein (KIAA0440), mRNA  |  |
| 1679             | 14423           | 27118          | 4.39              | 1.0E-112                   | 7092125 NT            | Homo sapiens KIAA0440 protein (KIAA0440), mRNA  |  |
| 2194             | 14923           | 27657          | 1.37              | 1.0E-112                   | AT768925.1            | EST_HUMAN   | W50708_X1 NCI CGAP_Kid12 Homo sapiens cDNA clone IMAGE:2400811 3'  |
| 2512             | 16229           | 27989          | 1.1               | 1.0E-112                   | BE888859.1            | EST_HUMAN   | 6011442674F1 NIH MGC_85 Homo sapiens cDNA clone IMAGE:3846858 5'   |
| 3076             | 15842           |                | 1.15              | 1.0E-112                   | 4504116 NT            | Homo sapiens glutamate receptor, ionotropic, kainate 1 (GRIK1) mRNA                                     |  |
| 3355             | 16115           | 28770          | 0.7               | 1.0E-112                   | A828851.1             | EST_HUMAN   | Wk45b12_X1 NCI CGAP_P22 Homo sapiens cDNA clone IMAGE:2418335 3' similar to gbt:M31650_7maf SEMENOGENIN 1 PROTEIN PRECURSOR (HUMAN); |
| 3884             | 16814           | 28253          | 0.74              | 1.0E-112                   | BE078073.1            | EST_HUMAN   | MR2-BT0580-09300-113-009 BT0580 Homo sapiens cDNA  |
| 4565             | 17300           | 29827          | 1.39              | 1.0E-112                   | 4504116 NT            | Homo sapiens glutamate receptor, ionotropic, kainate 1 (GRIK1) mRNA                                     |  |
| 4704             | 17437           | 30068          | 4.9               | 1.0E-112                   | AB037832.1            | NT  | Homo sapiens mRNA for KIAA1411 protein, partial cds  |
| 4704             | 17437           | 30069          | 4.9               | 1.0E-112                   | AB037832.1            | NT  | Homo sapiens mRNA for KIAA1411 protein, partial cds  |
| 5681             | 18378           | 31291          | 40.71             | 1.0E-112                   | N46046.1              | EST_HUMAN   | Y35077_X1 Severe melanocyte 2NbHM Homo sapiens cDNA clone IMAGE:273220 5'  |
| 6985             | 18766           | 31730          | 1.04              | 1.0E-112                   | AF_49773.1            | NT  | Homo sapiens NOD1 protein (NOD1) gene, exons 1, 2, and 3   |
| 6165             | 18832           | 31899          | 1.43              | 1.0E-112                   | BE741688.1            | EST_HUMAN   | 6011594717F1 NIH MGC_9 Homo sapiens cDNA clone IMAGE:3948597 5'  |
| 6369             | 18139           | 32134          | 0.68              | 1.0E-112                   | BF672815.1            | EST_HUMAN   | 602152649F1 NIH MGC_81 Homo sapiens cDNA clone IMAGE:4292420 5'  |
| 6539             | 18304           | 32208          | 0.71              | 1.0E-112                   | BE273103.1            | EST_HUMAN   | 601142755F1 NIH MGC_14 Homo sapiens cDNA clone IMAGE:3508508 5'  |
| 6639             | 18304           | 32209          | 0.71              | 1.0E-112                   | BE273103.1            | EST_HUMAN   | 601142755F1 NIH MGC_14 Homo sapiens cDNA clone IMAGE:3508508 5'  |
| 6741             | 18575           | 32607          | 1.13              | 1.0E-112                   | BF574225.1            | EST_HUMAN   | 6021317405F1 NIH MGC_81 Homo sapiens cDNA clone IMAGE:4270921 5'   |
| 7238             | 18921           | 32865          | 1.87              | 1.0E-112                   | 11416777 NT           | Homo sapiens solute carrier family 6 (neurotransmitter transporter, L-proline), member 7 (SLC6A7), mRNA |  |
| 7238             | 19921           | 32986          | 1.87              | 1.0E-112                   | 11416777 NT           | Homo sapiens solute carrier family 6 (neurotransmitter transporter, L-proline), member 7 (SLC6A7), mRNA |  |
| 7729             | 25120           | 33507          | 0.56              | 1.0E-112                   | BF213358.1            | EST_HUMAN   | 6011845089F1 NIH MGC_55 Homo sapiens cDNA clone IMAGE:4070302 5'   |
| 8053             | 20787           | 33919          | 1.73              | 1.0E-112                   | AU118051.1            | EST_HUMAN   | AU118051_HEMBA1 Homo sapiens cDNA clone HEMBA1002773 5'  |
| 8856             | 21547           | 34684          | 2.09              | 1.0E-112                   | BE887685.1            | EST_HUMAN   | 6011449151F1 NIH MGC_85 Homo sapiens cDNA clone IMAGE:3847285 5'   |
| 8856             | 21647           | 34685          | 2.09              | 1.0E-112                   | BE887685.1            | EST_HUMAN   | 6011449151F1 NIH MGC_85 Homo sapiens cDNA clone IMAGE:3847285 5'   |
| 9783             | 22444           | 35849          | 2.15              | 1.0E-112                   | BF111413.1            | EST_HUMAN   | T35097_X1 Scores NSF_F8_9W_OT_PA_P_S1 Homo sapiens cDNA clone IMAGE:35223020 3' similar to TR_Q8VW35 Q8/W35 C95/43 PROTEIN ;         |
| 10677            | 23368           | 36811          | 2.86              | 1.0E-112                   | AW863827.1            | EST_HUMAN   | MF3-SN0098-10409-108-B12 SN0098 Homo sapiens cDNA  |
| 10888            | 23548           | 36786          | 3.37              | 1.0E-112                   | A246900.1             | NT  | Homo sapiens mRNA for secreted modular calcium-binding protein (smoc1 gene)  |
| 11040            | 23711           | 36881          | 1.92              | 1.0E-112                   | BE280478.1            | EST_HUMAN   | 601155323F1 NIH MGC_21 Homo sapiens cDNA clone IMAGE:3138989 5'  |
| 11109            | 23779           | 37053          | 1.59              | 1.0E-112                   | AI792603.1            | EST_HUMAN   | qk24c08_Y6 NCI CGAP_Kid3 Homo sapiens cDNA clone IMAGE:1868902 5' similar to TR_Q64362 Q8a362 FUSED TOES ;                           |

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Table 4  
Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 11109            | 23779           | 37054          | 1.89              | 1.0E-112                             | AT792603.1            | EST_HUMAN               | qk2408.y5 NCI_C3AP_Kid3 Homo sapiens cDNA clone IMAGE:1886902 5' similar to TR-Q84382 Q84382                               |
| 11139            | 23806           | 37085          | 8.6               | 1.0E-112                             | AW377870.1            | EST_HUMAN               | FUSED TOES ; PM0-C10237-141098-001-h02 C10237 Homo sapiens cDNA  |
| 11810            | 24398           | 37734          | 1.82              | 1.0E-112                             | AT792603.1            | EST_HUMAN               | qk2408.y5 NCI_C3AP_Kid3 Homo sapiens cDNA clone IMAGE:1886902 5' similar to TR-Q84382 Q84382                               |
| 11810            | 24399           | 37735          | 1.82              | 1.0E-112                             | AT792603.1            | EST_HUMAN               | FUSED TOES ;   |
| 725              | 13489           | 26152          | 5.37              | 1.0E-113                             | AB385588.1            | EST_HUMAN               | ab38551.x1 Schiller meningioma Homo sapiens cDNA clone IMAGE:1853625 3'  |
| 725              | 13489           | 26153          | 5.37              | 1.0E-113                             | AB385588.1            | EST_HUMAN               | ab38551.x1 Schiller meningioma Homo sapiens cDNA clone IMAGE:1853625 3'  |
| 821              | 13688           | 26352          | 7.89              | 1.0E-113                             | M11985.1              | NT                      | Human X-linked phosphoglycerate kinase gene, exon 8  |
| 1532             | 14278           | 26968          | 2.88              | 1.0E-113                             | AB385588.1            | EST_HUMAN               | ab38551.x1 Schiller meningioma Homo sapiens cDNA clone IMAGE:1853625 3'  |
| 1832             | 15524           | 27382          | 1.44              | 1.0E-113                             | AF240775.1            | NT                      | Homo sapiens eIF4E-transporter mRNA, complete cds  |
| 2088             | 14820           | 27551          | 1.02              | 1.0E-113                             | Bf516218.1            | EST_HUMAN               | UJ-H-BW1-an-H-33-0-U1.s1 NCI CGAP_Sub7 Homo sapiens cDNA clone IMAGE:3082876 3'  |
| 2456             | 15174           | 27813          | 28.34             | 1.0E-113                             | AJ006878.1            | NT                      | Homo sapiens PLP gene  |
| 3127             | 15892           | 28538          | 1.82              | 1.0E-113                             | AJ223848.1            | NT                      | Homo sapiens mRNA for putative RNA helicase, 3' end  |
| 4968             | 17681           | 30360          | 0.91              | 1.0E-113                             | DR58083.1             | NT                      | Homo sapiens gene for cholecytokinin type-A receptor, complete cds   |
| 5008             | 17731           | 30335          | 2.16              | 1.0E-113                             | 6453582               | NT                      | Homo sapiens activating transcription factor B (BATF), mRNA  |
| 5008             | 17731           | 30336          | 2.16              | 1.0E-113                             | 5453582               | NT                      | Homo sapiens activating transcription factor B (BATF), mRNA  |
| 5165             | 25178           |                | 2.97              | 1.0E-113                             | BE780885.1            | EST_HUMAN               | 60146846551 NIH_MGC_87 Homo sapiens cDNA clone IMAGE:3872538 5'  |
| 5405             | 18205           | 30989          | 7.98              | 1.0E-113                             | AU127214.NT2EP2       | EST_HUMAN               | AU127214.NT2EP2 Homo sapiens cDNA clone NT2EP2008007 5'  |
| 5832             | 18821           | 31554          | 4.17              | 1.0E-113                             | AU140281.PLACE2       | EST_HUMAN               | AU140281.PLACE2 Homo sapiens cDNA clone PLACE2000274 5'  |
| 5861             | 18848           | 31589          | 1.47              | 1.0E-113                             | AF0168335.1           | NT                      | Homo sapiens P-glycoprotein (mdr1) mRNA, complete cds  |
| 5979             | 18701           | 31725          | 2.82              | 1.0E-113                             | 11525737              | NT                      | Homo sapiens UDP-N-acetyl-alpha-D-galactosamine-polypeptide N-acetylgalactosaminyltransferase 8 (GalNAc-T8) (GALNT8), mRNA |
| 6064             | 18843           | 31806          | 0.88              | 1.0E-113                             | 99861249              | NT                      | Homo sapiens ATP-binding cassette, sub-family B (MDR/TAP), member 4 (ABCE4), transcript variant B, mRNA                    |
| 6064             | 18843           | 31807          | 0.68              | 1.0E-113                             | 99861249              | NT                      | Homo sapiens ATP-binding cassette, sub-family B (MDR/TAP), member 4 (ABCE4), transcript variant B, mRNA                    |
| 6224             | 18898           | 31974          | 0.8               | 1.0E-113                             | 6006002               | NT                      | Homo sapiens glutamate receptor, ionotropic, N-methyl D-aspartate 2A (GRIN2A), mRNA  |
| 6224             | 18898           | 31975          | 0.8               | 1.0E-113                             | 6006002               | NT                      | Homo sapiens glutamate receptor, ionotropic, N-methyl D-aspartate 2A (GRIN2A), mRNA  |
| 7221             | 18906           | 32979          | 0.78              | 1.0E-113                             | BE2282161.1           | EST_HUMAN               | 6011520787F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:3508362 5'   |
| 7221             | 18906           | 32980          | 0.78              | 1.0E-113                             | BE2282161.1           | EST_HUMAN               | 6011520787F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:3508362 5'   |
| 7573             | 20242           | 33347          | 0.58              | 1.0E-113                             | AW858960.1            | EST_HUMAN               | EST371030 MAGE resequences, MAGE Homo sapiens cDNA   |
| 8790             | 21482           | 34628          | 0.46              | 1.0E-113                             | 8922619               | NT                      | Homo sapiens hypothetical protein FLJ11006 (FLJ11006), mRNA  |

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Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|--|--------------------|
| 8982             | 21682           | 34830          | 3.06              | 1.0E-113 BE382842.1        | EST_HUMAN             | 601297709F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:3627554 5'  |                    |
| 8982             | 21682           | 34831          | 3.06              | 1.0E-113 BE382842.1        | EST_HUMAN             | 601297709F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:3627554 5'  |                    |
| 8901             | 21988           |                | 0.93              | 1.0E-113 BE772867.1        | EST_HUMAN             | R01-FT0134-2B0600-021-d02 FT0134 Homo sapiens cDNA   |                    |
| 8730             | 22281           | 35583          | 1.4               | 1.0E-113 11428367          | NT                    | Homo sapiens transmembrane protein 2 (TMEM2), mRNA   |                    |
| 8830             | 22481           | 35683          | 0.45              | 1.0E-113 M21635.1          | NT                    | Human erg protein (eds-related gene) mRNA, complete cds  |                    |
| 9850             | 22598           | 35802          | 0.81              | 1.0E-113 5453997           | NT                    | Homo sapiens RAN binding protein 7 (RANBP7), mRNA  |                    |
| 8950             | 22598           | 35803          | 0.81              | 1.0E-113 5453997           | NT                    | Homo sapiens RAN binding protein 7 (RANBP7), mRNA  |                    |
| 10514            | 23160           | 36386          | 0.61              | 1.0E-113 AW500517.1        | EST_HUMAN             | U-HF-BN0-6H-p-10-0-UJ_r1 NIH_MGC_50 Homo sapiens cDNA clone IMAGE:3077322 5'   |                    |
| 10516            | 23161           | 36387          | 0.55              | 1.0E-113 BF691687.1        | EST_HUMAN             | 602247740F1 NIH_MGC_62 Homo sapiens cDNA clone IMAGE:4333280 5'  |                    |
| 10516            | 23161           | 36388          | 0.55              | 1.0E-113 BF691687.1        | EST_HUMAN             | 602247740F1 NIH_MGC_62 Homo sapiens cDNA clone IMAGE:4333280 5'  |                    |
| 11087            | 23737           | 37011          | 1.83              | 1.0E-113 AW500518.1        | EST_HUMAN             | U-HF-BN0-6H-p-12-0-UJ_r1 NIH_MGC_50 Homo sapiens cDNA clone IMAGE:3077320 5'   |                    |
| 11076            | 23746           | 37019          | 2.84              | 1.0E-113 AW500519.1        | EST_HUMAN             | hhs1809_Y1 NCI CGAP_GU1 Homo sapiens cDNA clone IMAGE:29869176 5' similar to TR:O60327_O60327  |                    |
| 11076            | 23746           | 37020          | 2.84              | 1.0E-113 AW500520.1        | EST_HUMAN             | hhs1809_Y1 NCI CGAP_GU1 Homo sapiens cDNA clone IMAGE:28889176 5' similar to TR:O60327_O60327  |                    |
| 11181            | 18988           | 31974          | 1.39              | 1.0E-113 6006002           | NT                    | KIA0584 PROTEIN  |                    |
| 11181            | 18988           | 31975          | 1.39              | 1.0E-113 6006002           | NT                    | Homo sapiens glutamate receptor, ionotropic, N-methyl D-aspartate 2A (GRIN2A) mRNA   |                    |
| 11227            | 23890           | 37177          | 2.81              | 1.0E-113 BE292868.1        | EST_HUMAN             | 601105528F1 NIH_MGC_15 Homo sapiens cDNA clone IMAGE:2888368 5'  |                    |
| 11481            | 24082           | 37393          | 1.32              | 1.0E-113 AA580720.1        | EST_HUMAN             | nc80b035.11 NCI CGAP_GC1 Homo sapiens cDNA clone IMAGE:797069 5' similar to SW:FEN1_HUMAN P39748 FLAP ENDONUCLEASE-1;  |                    |
| 11481            | 24082           | 37394          | 1.32              | 1.0E-113 AA580720.1        | EST_HUMAN             | nc80b035.11 NCI CGAP_GC1 Homo sapiens cDNA clone IMAGE:797069 5' similar to SW:FEN1_HUMAN P39748 FLAP ENDONUCLEASE-1;  |                    |
| 630              | 13409           | 28045          | 8.8               | 1.0E-114 T70551.1          | EST_HUMAN             | yd15c01.31 Soares fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:1082883 3' similar to gb:A21187 ALPHA-2-MACROGLOBULIN PRECURSOR (HUMAN) contains Alu repetitive element |                    |
| 1049             | 13808           | 28468          | 1.7               | 1.0E-114 8923087           | NT                    | Homo sapiens hypothetical protein FLJ20080 (FLJ20080), mRNA  |                    |
| 1290             | 14039           | 26712          | 5.09              | 1.0E-114 7657528           | NT                    | Homo sapiens ribosomal tumor deletion region protein 1 (RTDR1), mRNA   |                    |
| 1667             | 14413           | 27104          | 4.27              | 1.0E-114 6579073           | NT                    | Homo sapiens nucleoporin-like protein 1 (NLP_1), mRNA  |                    |
| 2807             | 12871           | 25491          | 1.28              | 1.0E-114 ABC033102.1       | NT                    | Homo sapiens mRNA for KIAA1276 protein, partial cds  |                    |
| 2807             | 12871           | 25492          | 1.28              | 1.0E-114 ABC033102.1       | NT                    | Homo sapiens mRNA for KIAA1276 protein, partial cds  |                    |
| 3128             | 15883           | 28537          | 2.75              | 1.0E-114 XD4086.1          | NT                    | Human gene for catalase (EC 1.11.1.6) exon 2 mapping to chromosome 11, band p13  |                    |
| 3169             | 15932           | 28581          | 1.02              | 1.0E-114 BF206374.1        | EST_HUMAN             | 601865632F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:410022145   |                    |
| 3997             | 16745           | 28877          | 2.61              | 1.0E-114 AF149773.1        | NT                    | Homo sapiens NOD1 protein (NOD1) gene, exons 1, 2, and 3   |                    |
| 4353             | 17096           | 29731          | 0.72              | 1.0E-114 J03171.1          | NT                    | Human Interferon-alpha receptor (HuIFN-alpha-Rec) mRNA, complete cds   |                    |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|--|
| 5084             | 17783           | 30400          | 1.05              | 1.0E-114                         | BE275324.1            | EST_HUMAN               | 601122173F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:2346098 5'  |
| 5315             | 18119           | 30775          | 1.28              | 1.0E-114                         | 4506880 NT            |                         | Homo sapiens sema domain, seven thrombospondin repeats (type 1 and type 1-like), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 5A (SEMA5A) mRNA   |
| 6315             | 18119           | 30776          | 1.28              | 1.0E-114                         | 4506880 NT            |                         | Homo sapiens sema domain, seven thrombospondin repeats (type 1 and type 1-like), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 5A (SEMA5A) mRNA   |
| 5598             | 18308           | 31207          | 0.97              | 1.0E-114                         | 9257201 NT            |                         | Homo sapiens clathrin, heavy polypeptide-like 1 (CLTC1), transcript variant 2, mRNA  |
| 6134             | 18912           | 31881          | 0.84              | 1.0E-114                         | Z26298.1              | NT                      | H_sapiens isoform 1 gene for L-type calcium channel, exon 20   |
| 6898             | 17974           | 30531          | 0.62              | 1.0E-114                         | 47589163 NT           |                         | Homo sapiens sparc/calcostenactin, cmyc and kerat-like domains proteoglycan (testican) (SPOCK) mRNA  |
| 6977             | 19458           |                | 0.95              | 1.0E-114                         | AB041533.1            | NT                      | Homo sapiens HCMQOT-1 mRNA for sperm antigen, complete cds   |
| 7139             | 19826           | 32894          | 1.02              | 1.0E-114                         | AU134187.1            | EST_HUMAN               | AU134187 OVARC1 Homo sapiens cDNA clone OVARC1001444 5'  |
| 7139             | 19826           | 32895          | 1.02              | 1.0E-114                         | AU134187.1            | EST_HUMAN               | AU134187 OVARC1 Homo sapiens cDNA clone OVARC1001444 5'  |
| 7182             | 19868           | 32941          | 8.3               | 1.0E-114                         | Y18000.1              | NT                      | Homo sapiens NF2 gene  |
| 7182             | 19868           | 32942          | 8.3               | 1.0E-114                         | Y18000.1              | NT                      | Homo sapiens gamma-aminobutyric acid (GABA) A receptor, alpha 2 (GABRA2) mRNA  |
| 7782             | 20487           | 33810          | 2.62              | 1.0E-114                         | 4557600 NT            |                         | Homo sapiens gamma-aminobutyric acid (GABA) A receptor, alpha 2 (GABRA2) mRNA  |
| 8067             | 20781           | 33889          | 1.92              | 1.0E-114                         | AJ363139.1            | EST_HUMAN               | q168408.X1 NCI CGAP_Bm26 Homo sapiens cDNA clone IMAGE:2017163 3'  |
| 8067             | 20781           | 33890          | 1.92              | 1.0E-114                         | AJ363139.1            | EST_HUMAN               | q168408.X1 NCI CGAP_Bm26 Homo sapiens cDNA clone IMAGE:2017163 3'  |
| 8802             | 21284           | 34437          | 3.81              | 1.0E-114                         | U63041.1              | NT                      | Human neural cell adhesion molecule CD56 mRNA, complete cds  |
| 8885             | 21357           | 34505          | 6.93              | 1.0E-114                         | AB011183.1            | NT                      | Homo sapiens mRNA for KIAA0581 protein, partial cds  |
| 8885             | 21357           | 34506          | 6.93              | 1.0E-114                         | AB011183.1            | NT                      | Homo sapiens mRNA for KIAA0581 protein, partial cds  |
| 9081             | 21770           | 34833          | 0.49              | 1.0E-114                         | BF109882.1            | EST_HUMAN               | 7168912.X Scores_NSF_F8_9W_OT_PA_P_S1 Homo sapiens cDNA clone IMAGE:3538847 3' similar to TR:QGUHN8 Q8UHN8 TRANSMEMBRANE PROTEIN 2 :   |
| 9214             | 21881           |                | 6.83              | 1.0E-114                         | AW327455.1            | EST_HUMAN               | 003805.X1 NIH_MGC_2 Homo sapiens cDNA clone IMAGE:2846744 5'   |
| 9265             | 20433           | 33595          | 2.8               | 1.0E-114                         | AF077754.1            | NT                      | Homo sapiens tyrosine kinase pp60c-src (SRC) gene, exon 12 and partial cds   |
| 9448             | 22125           |                | 1.03              | 1.0E-114                         | M13598.1              | NT                      | Human centrioplasmin mRNA  |
| 10039            | 22687           | 35905          | 1.08              | 1.0E-114                         | BE870004.1            | EST_HUMAN               | 601449752F1 NIH_MGC_65 Homo sapiens cDNA clone IMAGE:3853500 5'  |
| 10061            | 22709           | 35927          | 1.5               | 1.0E-114                         | AB163227.2            | NT                      | Homo sapiens chromosome 21 segment HS21C027  |
| 10439            | 23085           | 36313          | 0.7               | 1.0E-114                         | BE171984.1            | EST_HUMAN               | MRO-HT0559-250200-002-007 HT0559 Homo sapiens cDNA clone IMAGE:2806086 5' similar to gb:K17206 40S RIBOSOMAL PROTEIN S4 (HUMAN); gb:M206832 Mouse L1Rsp3 protein mRNA from a repetitive element, complete (MOUSE); |
| 10687            | 23378           |                |                   | 3.15                             | 1.0E-114              | BE302668.1              | EST_HUMAN  |
| 10789            | 23472           | 36714          | 1.71              | 1.0E-114                         | AF2223391.1           | NT                      | Homo sapiens calcium channel alpha1E subunit (CACNA1E) gene, exons 7-49, and partial exons, alternatively spliced  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|---|
| 10789            | 23472           | 38716          | 1.71              | 1.0E-114                         | AF2233891.1           | NT                      | Homo sapiens calcium channel alpha1E subunit (CACNA1E) gene, exons 7-49, and partial cds, alternatively spliced                                   |
| 11145            | 23812           | 37084          | 3                 | 1.0E-114                         | AV733454.1            | EST_HUMAN               | AV733454 cDNA clone cdABA08 5   |
| 11145            | 23812           | 37085          | 3                 | 1.0E-114                         | AV733454.1            | EST_HUMAN               | AV733454 cDNA clone cdABA08 5   |
| 11780            | 24388           | 37719          | 1.7               | 1.0E-114                         | 4758673               | NT                      | Homo sapiens LIM HOX gene 2 (LHX2) mRNA   |
| 11834            | 24418           | 37759          | 1.32              | 1.0E-114                         | 11528377              | NT                      | Homo sapiens clathrin, heavy polypeptide-like 1 (CLTC1), mRNA   |
| 12334            | 25402           | 30988          | 3.42              | 1.0E-114                         | 11418041              | NT                      | Homo sapiens TNF-inducible protein CG12-1 (CG12-1), mRNA  |
| 12577            | 24902           | 30988          | 4.83              | 1.0E-114                         | 11034850              | NT                      | Homo sapiens hypothetical protein (DJ1042K102), mRNA  |
| 12577            | 24902           | 30989          | 4.83              | 1.0E-114                         | 11034850              | NT                      | Homo sapiens hypothetical protein (DJ1042K102), mRNA  |
| 21               | 12849           | 25484          | 2.89              | 1.0E-116                         | 47581111              | NT                      | Homo sapiens HLA-B associated transcript-1 (D6S81E) mRNA  |
| 127              | 12942           | 26585          | 2.03              | 1.0E-116                         | 45058389              | NT                      | Homo sapiens polymerase (RNA) II (DNA directed) poly(A) polymerase A (228kD) (POLR2A) mRNA  |
| 131              | 12946           | 233            | 2.33              | 1.0E-115                         | 4557887               | NT                      | Homo sapiens keratin 18 (KRT18) mRNA  |
| 286              | 13092           | 25733          | 2.23              | 1.0E-115                         | AW804759.1            | EST_HUMAN               | QV4-UM0094-300500-158-588 UM0094 Homo sapiens cDNA clone IMAGE-1846808 3' similar to TR-000536 Q00536   |
| 523              | 13507           | 26939          | 0.88              | 1.0E-115                         | A539208.1             | EST_HUMAN               | Q00801_X1_NCI_CGAP_GC4_Homo sapiens cDNA clone IMAGE-1846808 3' similar to TR-000536 Q00536   |
| 623              | 13507           | 25940          | 0.89              | 1.0E-116                         | A539208.1             | EST_HUMAN               | TTF-1 INTERACTING PEPTIDE 5;  |
| 769              | 13541           | 26201          | 1.36              | 1.0E-115                         | 5174702               | NT                      | Homo sapiens transforming growth factor beta-activated kinase-binding protein 1 (TAB1), mRNA  |
| 769              | 13541           | 26202          | 1.36              | 1.0E-115                         | 5174702               | NT                      | Homo sapiens transforming growth factor beta-activated kinase-binding protein 1 (TAB1), mRNA  |
| 771              | 13543           | 26204          | 40.4              | 1.0E-116                         | 4503784               | NT                      | Homo sapiens ferritin, heavy polypeptide 1 (FTTH1) mRNA   |
| 1552             | 14298           | 26985          | 1.28              | 1.0E-115                         | AF228180.1            | NT                      | Homo sapiens alpha-aminoadipate semialdehyde synthase mRNA, complete cds  |
| 1552             | 14298           | 26986          | 1.28              | 1.0E-115                         | AF228180.1            | NT                      | Homo sapiens alpha-aminoadipate semialdehyde synthase mRNA, complete cds  |
| 1833             | 14572           | 27285          | 1.01              | 1.0E-115                         | U78027.1              | NT                      | Homo sapiens Bruton's tyrosine kinase (BTK), alpha-D-galactosidase A (GLA), L44-like ribosomal protein (L44.) and F7P2 (F7P3) genes, complete cds |
| 2078             | 14810           | 27541          | 0.98              | 1.0E-115                         | AB007802.1            | NT                      | Homo sapiens KIAA0442 mRNA, partial cds   |
| 2298             | 15023           | 27758          | 2.13              | 1.0E-115                         | AF231124.1            | NT                      | Homo sapiens testican-1 mRNA, complete cds  |
| 2355             | 15623           |                | 1.39              | 1.0E-115                         | AW804759.1            | EST_HUMAN               | QV4-UM0094-300300-156-h08 UM0094 Homo sapiens cDNA for alpha-tubulin 8 (TUBA8 gene)   |
| 3113             | 15878           | 28518          | 6.22              | 1.0E-115                         | A1245822.1            | NT                      | Homo sapiens mRNA for alpha-tubulin 8 (TUBA8 gene)  |
| 3113             | 15878           | 28519          | 6.22              | 1.0E-115                         | A1245822.1            | NT                      | Homo sapiens mRNA for alpha-tubulin 8 (TUBA8 gene)  |
| 3465             | 16221           | 28875          | 1.8               | 1.0E-116                         | AJ277882.1            | NT                      | Homo sapiens partial TTN gene for titin   |
| 4021             | 16767           | 28397          | 3.67              | 1.0E-115                         | AB002348.2            | NT                      | Homo sapiens mRNA for KIAA0350 protein, partial cds   |
| 4369             | 17107           | 29742          | 3.27              | 1.0E-115                         | 6912659               | NT                      | Homo sapiens Sfz2-like 3 (SFZ3), mRNA   |
| 4403             | 17140           | 29768          | 3.6               | 1.0E-116                         | 4758278               | NT                      | Homo sapiens EphA4 (EPHA4) mRNA   |
| 4628             | 17363           | 28986          | 2.64              | 1.0E-115                         | AL036857.1            | NT                      | Novel human mRNA from chromosome 1, which has similarities to BAT2 genes  |

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Single Exon Probes Expressed in Brain

| Probe SEQ ID NO. | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 4828             | 17383           | 29897          | 2.84              | 1.0E-115                             | AI096957.1            | NT                      | Novel human mRNA from chromosome 1, which has similarities to BAT2 genes  |
| 4848             | 17578           | 30201          | 3.51              | 1.0E-115                             | AL163268.2            | NT                      | Human sapiens chromosome 21 segment HS21C088  |
| 4848             | 17578           | 30202          | 3.51              | 1.0E-115                             | AL163268.2            | NT                      | Human sapiens chromosome 21 segment HS21C088  |
| 5283             | 18068           | 30698          | 1.62              | 1.0E-115                             | AW970535.1            | EST_HUMAN               | EST382410 MAGE resequences, MAGK Homo sapiens cDNA  |
| 5338             | 18141           | 30802          | 0.78              | 1.0E-115                             | BF065387.1            | EST_HUMAN               | 6021183248FT NIH_MGC_56 Homo sapiens cDNA clone IMAGE:4276738 5'  |
| 5454             | 18253           | 31143          | 1.98              | 1.0E-115                             | 11425128              | NT                      | Human sapiens similar to ER to nucleus signalling 1 (H. sapiens) (LOC03433), mRNA   |
| 5454             | 18253           | 31144          | 1.98              | 1.0E-115                             | 11425128              | NT                      | Human sapiens similar to ER to nucleus signalling 1 (H. sapiens) (LOC03433), mRNA   |
| 5604             | 18400           | 31313          | 1.34              | 1.0E-115                             | AI028789.1            | EST_HUMAN               | eu84601.x1 Schmidler fetal brain 00004 Homo sapiens cDNA clone IMAGE:25195688 3' similar to gb:107807                                     |
| 5604             | 18400           | 31314          | 1.34              | 1.0E-115                             | AI028789.1            | EST_HUMAN               | eu84601.x1 Schmidler fetal brain 00004 Homo sapiens cDNA clone IMAGE:25195688 3' similar to gb:107807                                     |
| 6168             | 18945           | 31916          | 0.97              | 1.0E-115                             | 11426788              | NT                      | DYNAVIN-1 (HUMAN);<br>Human sapiens sperm surface protein (HSS), mRNA   |
| 6168             | 18945           | 31917          | 0.97              | 1.0E-115                             | 11426788              | NT                      | Human sapiens sperm surface protein (HSS), mRNA   |
| 6302             | 19076           | 32061          | 9.84              | 1.0E-115                             | 11426838              | NT                      | Human sapiens similar to ribosomal protein S28 (H. sapiens) (LOC03430), mRNA  |
| 6434             | 19202           | 32198          | 2.04              | 1.0E-115                             | 7861983               | NT                      | Human sapiens KIAA0054 gene product; Helicase (KIAA0054), mRNA  |
| 6434             | 19202           | 32199          | 2.04              | 1.0E-115                             | 7861983               | NT                      | Human sapiens KIAA0054 gene product; Helicase (KIAA0054), mRNA  |
| 6835             | 19497           | 32521          | 0.83              | 1.0E-115                             | T88774.1              | EST_HUMAN               | yd8608.11 Scores fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:1150855 5' similar to SP-DPOG YEAST P16801 DNA POLYMERASE GAMMA ; |
| 7178             | 19864           | 32935          | 1.54              | 1.0E-115                             | AI076598.1            | EST_HUMAN               | cz31a08.x1 Scores_total_fetus_Nb2HF8_9W Human sapiens cDNA clone IMAGE:1676914 3'   |
| 7178             | 19864           | 32936          | 1.54              | 1.0E-115                             | AI076598.1            | EST_HUMAN               | cz31a08.x1 Scores_total_fetus_Nb2HF8_9W Human sapiens cDNA clone IMAGE:1676914 3'   |
| 7508             | 18991           | 33068          | 8.22              | 1.0E-115                             | AB023212.1            | NT                      | Human sapiens mRNA for KIAA0935 protein, partial cds  |
| 8060             | 20754           | 33585          | 13.71             | 1.0E-115                             | BE830187.1            | EST_HUMAN               | RC8-ET0081-13070-011-G011 ET00811 Homo sapiens cDNA   |
| 8060             | 20754           | 33886          | 13.71             | 1.0E-115                             | BE830187.1            | EST_HUMAN               | RC8-ET0081-13070-011-G011 ET00811 Homo sapiens cDNA   |
| 8712             | 21404           | 34548          | 2.15              | 1.0E-115                             | 11434772              | NT                      | Human sapiens eukaryotic translation initiation factor 4B (EIF4B), mRNA   |
| 9075             | 22327           | 35522          | 0.8               | 1.0E-115                             | BF382029.1            | EST_HUMAN               | 601816332F1 NIH_MGC_56 Homo sapiens cDNA clone IMAGE:4050108 5'   |
| 9899             | 22549           | 35743          | 2.25              | 1.0E-115                             | AB022336.1            | NT                      | Human mRNA for KIAA0338 gene, partial cds   |
| 9899             | 22549           | 35744          | 2.25              | 1.0E-115                             | AB022336.1            | NT                      | Human mRNA for KIAA0338 gene, partial cds   |
| 10418            | 23084           | 36284          | 1                 | 1.0E-115                             | AI221878.1            | EST_HUMAN               | cg82e09.x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:1843336 3'   |
| 10418            | 23084           | 36285          | 1                 | 1.0E-115                             | AI221878.1            | EST_HUMAN               | cg82e09.x1 Scores_NFL_T_GC_GAP_C11 Homo sapiens cDNA clone IMAGE:1843336 3' similar to TR:O16128 O16128                                   |
| 10428            | 23072           | 36283          | 0.82              | 1.0E-115                             | AI524687.1            | EST_HUMAN               | PHENYLALANYL TRNA SYNTHETASE ;  |
| 10817            | 23310           | 36549          | 7.82              | 1.0E-115                             | AW571544.1            | EST_HUMAN               | xx32108.x1 NCI_OGAP_UH Homo sapiens cDNA clone IMAGE:28382338 3' similar to SW:GAPP_CANFA   |
| 10869            | 23549           | 36797          | 1.33              | 1.0E-115                             | 9910279               | NT                      | P10463 CALCYPHOSINE ;   |
|                  |                 |                |                   |                                      |                       |                         | Human sapiens UDP-glucosideglycoprotein glucosyltransferase 1 (FLGFT1), mRNA  |

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| Probe SEQ ID NO: | Exon ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit No. | Top Hit Accession No.  | Top Hit Database Source       | Top Hit Descriptor  |
|------------------|-------------|----------------|-------------------|--------------------------------------|-------------|--|-------------------------------|---|
| 11225            | 23888       | 37174          | 1.54              | 1.0E-115 BE045890.1                  | EST_HUMAN   | hg54610_x1_NCI_CGAP_Par3_Homo_sapiens cDNA clone IMAGE:3123188 3' similar to TR-O888378 O888378  | PRP4 PROTEIN KINASE HOMOLOG ; | hg54610_x1_NCI_CGAP_Par3_Homo_sapiens cDNA clone IMAGE:3123188 3' similar to TR-O888378 O888378 |
| 11226            | 23888       | 37175          | 1.64              | 1.0E-115 BE045890.1                  | EST_HUMAN   | hg54610_x1_NCI_CGAP_Par3_Homo_sapiens cDNA clone IMAGE:3123188 3' similar to TR-O888378 O888378  | PRP4 PROTEIN KINASE HOMOLOG ; | hg54610_x1_NCI_CGAP_Par3_Homo_sapiens cDNA clone IMAGE:3123188 3' similar to TR-O888378 O888378 |
| 11374            | 23881       | 37281          | 2.27              | 1.0E-115 4502528 NT                  | EST_HUMAN   | [Homo sapiens calcium channel, voltage-dependent, alpha 1E subunit (CACNA1E) mRNA 60111744F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3352379 5'   |                               |   |
| 11775            | 24368       | 37689          | 2.63              | 1.0E-115 BE255549.1                  | EST_HUMAN   | QV3-OT0085-200300-137-h12 OT0065 Homo sapiens cDNA genes, complets cds   |                               |   |
| 11842            | 24426       | 37767          | 1.63              | 1.0E-116 AW884376.1                  | EST_HUMAN   | [Homo sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1) genes, complets cds  |                               |   |
| 11920            | 24481       |                | 2.16              | 1.0E-115 AF240788.1                  | NT          |  |                               |   |
| 559              | 13341       | 25969          | 1.88              | 1.0E-116 BE275502.1                  | EST_HUMAN   | 601121347F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:2888875 5'  |                               |   |
| 783              | 13555       | 26216          | 2.21              | 1.0E-116 4507334 NT                  | EST_HUMAN   | [Homo sapiens synaptotagmin 1 (SYN1), mRNA genes, complets cds   |                               |   |
| 839              | 13609       |                | 1.76              | 1.0E-116 4507334 NT                  | EST_HUMAN   | [Homo sapiens synaptotagmin 1 (SYN1), mRNA genes, complets cds   |                               |   |
| 1880             | 14728       | 27447          | 2.65              | 1.0E-116 5174478 NT                  | EST_HUMAN   | [Homo sapiens pericentrin (P-CNT) mRNA genes, complets cds   |                               |   |
| 1880             | 14728       | 27448          | 2.66              | 1.0E-116 5174478 NT                  | EST_HUMAN   | [Homo sapiens pericentrin (P-CNT) mRNA genes, complets cds   |                               |   |
| 2080             | 15685       | 27552          | 2.6               | 1.0E-116 M19824.1                    | EST_HUMAN   | [Human apolipoprotein B-100 (apoB) gene, exons 17 and 18 genes, complets cds   |                               |   |
| 2080             | 15685       | 27553          | 2.6               | 1.0E-116 M19824.1                    | EST_HUMAN   | [Human apolipoprotein B-100 (apoB) gene, exons 17 and 18 genes, complets cds   |                               |   |
| 2305             | 16030       | 27787          | 1.95              | 1.0E-116 6463941 NT                  | EST_HUMAN   | [Homo sapiens protein phosphatase, EF hand calcium-binding domain 1 (PP-EF1) mRNA genes, complets cds  |                               |   |
| 2340             | 16063       |                | 1.36              | 1.0E-116 U778308.1                   | EST_HUMAN   | [Human olfactory receptor drift 7-201-1 (OR17-201-1) gene, olfactory receptor drift 17-32 (OR17-32) gene and olfactory receptor pseudo, drift 17-01 (OR17-01) pseudogene, complete cds genes, complets cds |                               |   |
| 2458             | 15178       | 27816          | 2.84              | 1.0E-116 AB018333.1                  | EST_HUMAN   | [Homo sapiens mRNA for KIAA0780 protein, partial cds genes, complets cds   |                               |   |
| 2738             | 15533       | 28183          | 1.53              | 1.0E-116 BE889256.1                  | EST_HUMAN   | 6011513337F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:3914600 5'   |                               |   |
| 3171             | 15934       | 28582          | 4.87              | 1.0E-116 L77570.1                    | EST_HUMAN   | [Homo sapiens Disease syndrome critical region, centromeric end genes, complets cds  |                               |   |
| 3171             | 16934       | 28683          | 4.87              | 1.0E-116 L77570.1                    | EST_HUMAN   | [Homo sapiens Disease syndrome critical region, centromeric end genes, complets cds  |                               |   |
| 4345             | 17084       | 28713          | 2.43              | 1.0E-116 5031954 NT                  | EST_HUMAN   | [Homo sapiens sodium phosphate transporter 3 (SPT3) mRNA genes, complets cds   |                               |   |
| 4803             | 17634       | 30156          | 1.57              | 1.0E-116 AB070986.1                  | EST_HUMAN   | PMBT135-070489-016 BT135 Homo sapiens cDNA clone IMAGE:1898985 3' similar to contains element  |                               |   |
| 5197             | 18005       | 30627          | 0.87              | 1.0E-116 A1302082.1                  | EST_HUMAN   | cp18d04_x1_NCI_CGAP_Lu5 Homo sapiens cDNA clone IMAGE:1898985 3' similar to contains element MER25 repetitive element;   |                               |   |
| 5889             | 18674       | 31619          | 4.4               | 1.0E-116 W42822.1                    | EST_HUMAN   | xx24d07_r1_Scaras senescent fibroblasts NBHSF Homo sapiens cDNA clone IMAGE:323245 5' similar to SW1-MDHM_MOUSE_P08249 MALATE DEHYDROGENASE, MITOCHONDRIAL PRECURSOR ;                                     |                               |   |
| 6117             | 18895       | 31862          | 1.8               | 1.0E-116 AB046858.1                  | EST_HUMAN   | [Homo sapiens mRNA for KIAA1636 protein, partial cds genes, complets cds   |                               |   |
| 6117             | 18895       | 31863          | 1.8               | 1.0E-116 AB046859.1                  | EST_HUMAN   | [Homo sapiens mRNA for KIAA1636 protein, partial cds genes, complets cds   |                               |   |
| 6184             | 18961       | 31684          | 0.76              | 1.0E-116 BE408097.1                  | EST_HUMAN   | 601302281F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3636784 5'  |                               |   |
| 6421             | 19189       |                | 1.55              | 1.0E-116 BE158133.1                  | EST_HUMAN   | MR2-HT0378-210200-102-004 HT0378 Homo sapiens cDNA genes, complets cds   |                               |   |

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Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 6844             | 19544           | 32572          |                   | 1.19                                 | C02944.1              | EST_HUMAN               | O22944 Human heart cDNA (NdeIkanturna) Homo sapiens cDNA clone 3NH-C0567  |
| 7102             | 19780           | 32855          |                   | 5.74                                 | 1.0E-116 AY716314.1   | EST_HUMAN               | AY716314 DCB Human cDNA clone DCBBCG08 5'   |
| 8287             | 20981           | 34101          |                   | 1.37                                 | 1.0E-116 AA354256.1   | EST_HUMAN               | EST62685 Jurkat T-cells V Homo sapiens cDNA 5' end similar to keratin 2   |
| 8287             | 20981           | 34102          |                   | 1.37                                 | 1.0E-116 AA354256.1   | EST_HUMAN               | EST62685 Jurkat T-cells V Homo sapiens cDNA 5' end similar to keratin 2   |
| 8978             | 21071           | 34209          |                   | 0.98                                 | 1.0E-116 AI094151.1   | EST_HUMAN               | CM-H3-043-080239-075 BT043 Homo sapiens cDNA clone IMAGE:3680880 5'   |
| 8836             | 21528           | 34674          |                   | 1.66                                 | 1.0E-116 BE585507.1   | EST_HUMAN               | 601338268F1 NIH MGIC 53 Homo sapiens cDNA clone IMAGE:1844168 3' similar to   |
| 8897             | 21687           | 34837          |                   | 1.61                                 | 1.0E-116 AI216352.1   | EST_HUMAN               | q96e05.x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA PRECURSOR (HUMAN); gb:X63741_m1 FIBULIN-1, isoform A                |
| 8573             | 22228           | 35411          |                   | 1.52                                 | 1.0E-116 11418646 NT  | EST_HUMAN               | Homo sapiens laminin, alpha 2 (merosin, congenital muscular dystrophy) (LAMA2), mRNA                                |
| 10170            | 22818           | 38038          |                   | 0.74                                 | 1.0E-118 AJ277441.1   | NT                      | Homo sapiens partial mRNA for xylosidyltransferase I (X1-1 gene)  |
| 10170            | 22818           | 38037          |                   | 0.74                                 | 1.0E-118 AJ277441.1   | NT                      | Homo sapiens partial mRNA for xylosidyltransferase I (X1-1 gene)  |
| 10246            | 22894           | 38104          |                   | 0.78                                 | 1.0E-116 BE158913.1   | EST_HUMAN               | QV44HT0401-281289-063-d9 HT0401 Homo sapiens cDNA   |
| 10586            | 23281           | 38519          |                   | 2.4                                  | 1.0E-116 BF335849.1   | EST_HUMAN               | CM2-CT0482-300800-349-06 C10482 Homo sapiens cDNA   |
| 11080            | 23750           | 37025          |                   | 2.85                                 | 1.0E-116 AI367140.1   | EST_HUMAN               | q941604.x1 Scores_NhIMPu_S1 Homo sapiens cDNA clone IMAGE:1835102 3' similar to WP-B0465.7                          |
| 12625            | 25287           |                |                   | 1.88                                 | 1.0E-116 AL134889.1   | EST_HUMAN               | CE01765; DKFZp762L1110_1f1762 (synonym: Irmat2) Homo sapiens cDNA clone DKFZp762L1110_1f110 5'                      |
| 545              | 13328           | 25959          |                   | 1.67                                 | 1.0E-117 4826836 NT   | EST_HUMAN               | Homo sapiens acetyl-Coenzyme A carboxylase alpha (ACACA), mRNA  |
| 1055             | 15559           | 26474          |                   | 0.96                                 | 1.0E-117 AF124593.1   | NT                      | Mus musculus fragile-X-related protein 1 (Frx1h) gene, exons 13a through 15   |
| 1747             | 14488           | 27188          |                   | 1.02                                 | 1.0E-117 AF123320.1   | NT                      | Homo sapiens lymphocyte activation-associated protein mRNA, complete cds  |
| 1823             | 14582           | 27274          |                   | 1.51                                 | 1.0E-117 M18816.1     | NT                      | Human apolipoprotein B-100 (apoB) gene, exon 10   |
| 2208             | 14938           | 27874          |                   | 1.54                                 | 1.0E-117 AW287689.1   | EST_HUMAN               | EST389769 MAGE resequences, MAGE Homo sapiens cDNA  |
| 3262             | 16024           | 28674          |                   | 1.64                                 | 1.0E-117 AA978114.1   | EST_HUMAN               | cp32c11.s1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:1578548 3'   |
| 3971             | 16720           | 28355          |                   | 2.1                                  | 1.0E-117 AA316723.1   | EST_HUMAN               | EST188414 HCC cell line (metastasis to liver in mouse) II Homo sapiens cDNA 5' end similar to ribosomal protein L29 |
| 4310             | 17049           | 28674          |                   | 2.03                                 | 1.0E-117 8859584 NT   | EST_HUMAN               | Homo sapiens collagen, type IV, alpha 5 (Alport syndrome) (COL4A5), mRNA  |
| 4538             | 17273           | 28905          |                   | 2.95                                 | 1.0E-117 AL042120.1   | EST_HUMAN               | DKFZp434C1120_1f1434 (synonym: hies3) Homo sapiens cDNA clone DKFZp434C1120 5'                                      |
| 4674             | 17408           | 30043          |                   | 1.27                                 | 1.0E-117 X88970.1     | NT                      | H.sapiens mRNA for TPCR16 protein   |
| 4674             | 17408           | 30044          |                   | 1.27                                 | 1.0E-117 X88970.1     | NT                      | H.sapiens mRNA for TPCR16 protein   |
| 4759             | 17491           | 30119          |                   | 10.03                                | 1.0E-117 AF134304.2   | NT                      | Homo sapiens Scar2 (SCAR2) gene, partial cds  |
| 4759             | 17491           | 30120          |                   | 10.03                                | 1.0E-117 AF134304.2   | NT                      | Homo sapiens Scar2 (SCAR2) gene, partial cds  |
| 4887             | 17614           | 30233          |                   | 3.57                                 | 1.0E-117 AB020673.1   | NT                      | Homo sapiens mRNA for KIAA0868 protein, complete cds  |
| 5136             | 17854           | 30471          |                   | 0.73                                 | 1.0E-117 6812461 NT   | EST_HUMAN               | Homo sapiens atrophin-1 interacting protein 1; actinin receptor interacting protein 1 (KIAA0705), mRNA              |
| 5284             | 18070           | 30689          |                   | 3.01                                 | 1.0E-117 BE730508.1   | EST_HUMAN               | 601882687F1 NIH MGIC_20 Homo sapiens cDNA clone IMAGE:3832214 5'  |

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## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLASTE Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|---------------------------------|-----------------------|-------------------------|---|
| 68850            | 17837           | 30574          | 0.88              | 1.0E-117                        | AA323348.1            | EST_HUMAN               | EST26111 Cerebellum II Homo sapiens cDNA 5' end similar to zinc finger domain           |
| 68850            | 20031           | 31108          | 5.01              | 1.0E-117                        | L76571.1              | NT                      | Homo sapiens nuclear hormone receptor (shp) gene, 3' end of cds                         |
| 7350             | 20031           | 31109          | 5.01              | 1.0E-117                        | L76571.1              | NT                      | Homo sapiens nuclear hormone receptor (shp) gene, 3' end of cds                         |
| 7350             | 20122           | 32112          | 1.75              | 1.0E-117                        | AV177788.1            | EST_HUMAN               | AV717788 DCB Homo sapiens cDNA clone DCBBAE01 5'  |
| 7446             | 20122           | 32113          | 1.75              | 1.0E-117                        | AV177788.1            | EST_HUMAN               | AV717788 DCB Homo sapiens cDNA clone DCBBAE01 5'  |
| 7446             | 20122           |                |                   |                                 |                       |                         | WP868607_X1 NC_ CGAP_Bm25 Homo sapiens cDNA clone IMAGE24088629 5' similar to TR:075085 |
| 7878             | 20573           | 33696          | 3.38              | 1.0E-117                        | A1850145.1            | EST_HUMAN               | O75085 KIAA0477 PROTEIN;  |
| 8210             | 20804           | 34039          | 2.29              | 1.0E-117                        | 10834988              | NT                      | Homo sapiens neural cell adhesion molecule 1 (NCAM1), mRNA                              |
| 8210             | 20804           | 34040          | 2.29              | 1.0E-117                        | 10834988              | NT                      | Homo sapiens neural cell adhesion molecule 1 (NCAM1), mRNA                              |
| 8310             | 21004           | 34141          | 0.56              | 1.0E-117                        | A18D4151.1            | EST_HUMAN               | CM-BT043-080289-075 BT043 Homo sapiens cDNA   |
| 8310             | 21004           | 34142          | 0.56              | 1.0E-117                        | A18D4151.1            | EST_HUMAN               | CM-BT043-080289-075 BT043 Homo sapiens cDNA   |
| 8310             | 21004           | 34142          | 0.56              | 1.0E-117                        | A18D4151.1            | EST_HUMAN               | Human gene for very low density lipoprotein receptor, exon 11                           |
| 9193             | 21868           | 35033          | 2.25              | 1.0E-117                        | D16524.1              | NT                      | Homo sapiens cDNA clone IMAGE3843748 5'   |
| 9688             | 22338           | 35532          | 2.07              | 1.0E-117                        | BE733822.1            | EST_HUMAN               | CM-BT043-080289-075 BT043 mRNA, complete cds  |
| 9846             | 26127           | 35697          | 2.9               | 1.0E-117                        | AF069033.1            | NT                      | Homo sapiens gamma-aminobutyric acid type B receptor 2 (GABABR2), mRNA                  |
| 10469            | 23115           | 36346          | 1.11              | 1.0E-117                        | 11420222              | NT                      | Homo sapiens Drosophila Kelch like protein (DKEL(CHL)), mRNA                            |
| 10765            | 23449           | 36691          | 1.77              | 1.0E-117                        | D83776.1              | NT                      | Human mRNA for KIAA0191 gene, partial cds   |
| 10894            | 23840           | 36889          | 2.68              | 1.0E-117                        | 11424835              | NT                      | 60156833717F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE3544286 5'                        |
| 10894            | 23840           | 36892          | 2.68              | 1.0E-117                        | 11424836              | NT                      | Homo sapiens gamma-aminobutyric acid type B receptor 2 (GABABR2), mRNA                  |
| 11243            | 23905           | 37198          | 3.32              | 1.0E-117                        | A8011541.1            | NT                      | Homo sapiens mRNA for MEGF8, partial cds  |
| 11243            | 23905           | 37197          | 3.32              | 1.0E-117                        | AB3011541.1           | NT                      | Homo sapiens mRNA for MEGF8, partial cds  |
| 11369            | 23976           |                | 14.73             | 1.0E-117                        | BE268858.1            | EST_HUMAN               | 6011786203F1 NIH_MGC_8 Homo sapiens cDNA clone IMAGE3544286 5'                          |
| 11587            | 24188           | 37501          | 2.02              | 1.0E-117                        | 4501948               | NT                      | Homo sapiens ATP-binding cassette, sub-fAMILY A (ABC1), member 3 (ABCA3), mRNA          |
| 11687            | 24186           | 37502          | 2.02              | 1.0E-117                        | 4501948               | NT                      | Homo sapiens ATP-binding cassette, sub-fAMILY A (ABC1), member 3 (ABCA3), mRNA          |
| 68               | 12898           | 25530          | 5.98              | 1.0E-118                        | AF161600.1            | EST_HUMAN               | DKFZp434056_1_434 (synonym: Hes-2) Homo sapiens cDNA clone DKFZp434056_1                |
| 84               | 12820           | 25557          | 2.13              | 1.0E-118                        | AL045854.1            | EST_HUMAN               | Homo sapiens hypothetical protein (D328E18.C1.1), mRNA                                  |
| 504              | 13288           | 25922          | 5.67              | 1.0E-118                        | 7657016               | NT                      | Homo sapiens sine oculis homeobox (Drosophila) homolog 1 (SIX1), mRNA                   |
| 894              | 15555           | 26328          | 0.98              | 1.0E-118                        | 5174680               | NT                      | 601281847F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE3604019 5'                          |
| 2227             | 14955           | 27683          | 2.04              | 1.0E-118                        | BE389705.1            | EST_HUMAN               | 601281847F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE3604019 5'                          |
| 2227             | 14955           | 27694          | 2.04              | 1.0E-118                        | BE389705.1            | EST_HUMAN               | 601281847F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE3604019 5'                          |
| 2227             | 14955           | 27695          | 2.04              | 1.0E-118                        | BE389705.1            | EST_HUMAN               | EST363789 MAGE resequences, MAGE Homo sapiens cDNA                                      |
| 2329             | 15054           |                |                   |                                 | 1.68                  | EST_HUMAN               | EST_HUMAN   |
| 2744             | 15450           | 28189          | 2.61              | 1.0E-118                        | U07000.1              | NT                      | Human breakpoint cluster region (BCR) gene, complete cds                                |
| 2744             | 15450           | 28190          | 2.61              | 1.0E-118                        | U07000.1              | NT                      | Human breakpoint cluster region (BCR) gene, complete cds                                |
| 3102             | 15887           |                | 4.64              | 1.0E-118                        | Y13892.1              | NT                      | Hom sapiens FPKY exon 7   |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 3180 15953       | 28905           |                | 4.67              | 1.0E-118                             | AJ347694.1            | EST_HUMAN               | sp01056_x1 NCI_CGAP_Kid5 Homo sapiens cDNA clone IMAGE-1916789_3'             |
| 3180 15953       | 28906           |                | 4.67              | 1.0E-118                             | AJ347694.1            | EST_HUMAN               | sp01056_x1 NCI_CGAP_Kid5 Homo sapiens cDNA clone IMAGE-1916789_3'             |
| 3180 15953       | 28939           |                | 4.77              | 1.0E-118                             | D23630.1              | NT                      | Human mRNA for ribosomal protein, complete cds                                |
| 4087 16811       |                 |                | 0.9               | 1.0E-118                             |                       | 114257983               | NT  |
| 4659 17393       | 300283          |                | 1.87              | 1.0E-118                             | AF142624.1            | NT                      | Homo sapiens calcium channel gamma 4 subunit (CACN(C4)) gene, exon 3          |
| 5337 18140       | 30800           |                | 1.87              | 1.0E-118                             | AF142624.1            | NT                      | Homo sapiens calcium channel gamma 4 subunit (CACN(C4)) gene, exon 3          |
| 5337 18140       | 30801           |                | 0.94              | 1.0E-118                             |                       | 114220544               | NT  |
| 5543 18340       | 31247           |                | 0.94              | 1.0E-118                             |                       | 11422054                | NT  |
| 5543 18340       | 31248           |                | 0.94              | 1.0E-118                             |                       | 11422054                | NT  |
| 5543 18340       | 31395           |                | 1.24              | 1.0E-118                             | MS5109.1              | NT                      | Human cystic fibrosis transmembrane conductance regulator (CFTR) gene, exon 4 |
| 5684 18477       |                 |                | 0.83              | 1.0E-118                             |                       | 11426900                | NT  |
| 6772 18563       | 31491           |                | 0.83              | 1.0E-118                             |                       | 11426900                | NT  |
| 5772 18563       | 31492           |                | 0.83              | 1.0E-118                             |                       | 11426900                | NT  |
| 5853 18640       | 31578           |                | 1.49              | 1.0E-118                             |                       | 11420784                | NT  |
| 6892 19355       | 32368           |                | 1.44              | 1.0E-118                             |                       | 4557732                 | NT  |
| 6892 19355       | 32369           |                | 1.44              | 1.0E-118                             |                       | 4657732                 | NT  |
| 6897 19689       | 32738           |                | 1.12              | 1.0E-118                             | AL043701.1            | EST_HUMAN               | DKFZ43400127_11 434 (synonym: hsa3) Homo sapiens cDNA clone DKFZ43400127_5'   |
| 6897 19689       | 32739           |                | 1.12              | 1.0E-118                             | AL043701.1            | EST_HUMAN               | DKFZ43400127_11 434 (synonym: hsa3) Homo sapiens cDNA clone DKFZ43400127_5'   |
| 7500 20172       | 33284           |                | 5.63              | 1.0E-118                             |                       | 11431050                | NT  |
| 7753 20397       | 33512           |                | 0.86              | 1.0E-118                             | BFR85272.1            | EST_HUMAN               | 6021416201F1 NIH MG3C_46 Homo sapiens cDNA clone IMAGE-311789_5'              |
| 7872 20587       | 33683           |                | 2.17              | 1.0E-118                             | BF751223.1            | EST_HUMAN               | 601469159F1 NIH MG3C_67 Homo sapiens cDNA clone IMAGE-3872247_5'              |
| 8282 20978       | 34116           |                | 6.58              | 1.0E-118                             | BE062855.1            | EST_HUMAN               | QV-B-T0263-080/200-097-4103_B10263 Homo sapiens cDNA                          |
| 8282 20978       | 34117           |                | 6.58              | 1.0E-118                             | BE062855.1            | EST_HUMAN               | QV-B-T0263-080/200-097-4103_B10263 Homo sapiens cDNA clone IMAGE-311789_5'    |
| 8288 20982       | 34122           |                | 1.37              | 1.0E-118                             | AA443024.1            | EST_HUMAN               | 288807_71 Socres_NIHMPU_S1 Homo sapiens cDNA clone IMAGE-311789_5'            |
| 8288 20982       | 34123           |                | 1.37              | 1.0E-118                             | AA443024.1            | EST_HUMAN               | 288807_71 Socres_NIHMPU_S1 Homo sapiens cDNA clone IMAGE-311789_5'            |
| 8573 21265       | 34404           |                | 1.01              | 1.0E-118                             | AB002381.1            | NT                      | Human mRNA for KIAA0383 gene, partial cds                                     |
| 8573 21265       | 34405           |                | 1.01              | 1.0E-118                             | AB002381.1            | NT                      | Human mRNA for KIAA0383 gene, partial cds                                     |
| 8621 21313       | 34455           |                | 2.06              | 1.0E-118                             | 4557732               | NT                      | Human mRNA for KIAA0383 gene, partial cds                                     |
| 8621 21313       | 34456           |                | 2.06              | 1.0E-118                             | 4557732               | NT                      | Human mRNA for KIAA0383 gene, partial cds                                     |
| 8833 21624       | 34787           |                | 4.95              | 1.0E-118                             | BE263134.1            | EST_HUMAN               | 601144863F2 NIH MG3C_19 Homo sapiens cDNA clone DKFZ4340052_5'                |
| 8864 21655       | 34806           |                | 0.55              | 1.0E-118                             | AL048474.2            | EST_HUMAN               | DKFZp588K1824_11 588 (synonym: hsa1) Homo sapiens mRNA                        |
| 893 22146        | 35327           |                | 1.83              | 1.0E-118                             |                       | 7857016                 | NT  |
| 9886 22536       | 35731           |                | 0.88              | 1.0E-118                             | AL138321.1            | EST_HUMAN               | Homo sapiens cDNA clone IMAGE-3584785_3 similar to SW-2P3A_HUMAN              |
| 10274 22922      | 36134           |                | 1.83              | 1.0E-118                             | BF195407.1            | EST_HUMAN               | P2174 ZONA PELLUCIDA SPERM-BINDING PROTEIN 3A PRECURSOR;                      |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|--|--------------------|
| 10365            | 23012           | 36227          | 0.48              | 1.0E-118 AW271289.1              | EST_HUMAN             | x848a10x1 NCI_CGAP_Ku411 Homo sapiens cDNA clone IMAGE:27726883' similar to SW_BODG_HUMAN_076938 GAMMA-BUTYROBETAINE-2-OXOGLUTARATE DIOXYGENASE ; UH-BW0-a0-e0-0-U1_s1 NCI_CGAP_Sub6 Homo sapiens cDNA clone IMAGE:27297723' |                    |
| 10431            | 23077           | 36300          | 0.65              | 1.0E-118 AW296351.1              | EST_HUMAN             | UH-BW0-a0-e0-0-U1_s1 NCI_CGAP_Sub6 Homo sapiens cDNA clone IMAGE:43027986'   |                    |
| 11206            | 23869           | 37165          | 1.61              | 1.0E-118 BF855214.1              | EST_HUMAN             | Homo sapiens protein with polyglutamine repeat; calcium (ca2+) homeostasis endoplasmic reticulum protein (ERPROT213-21), mRNA  |                    |
| 11236            | 23889           | 37188          | 1.8               | 1.0E-118                         | 11055988 NT           | EST186814 HCC cell line (metastasis to liver in mouse); II Homo sapiens cDNA 5' end similar to dynamin, light chain 1, cytoplasmic   |                    |
| 11248            | 23908           | 37201          | 10.23             | 1.0E-118 AA315007.1              | EST_HUMAN             | EST_HUMAN  |                    |
| 11548            | 24147           | 37457          | 1.68              | 1.0E-118 BE098678.1              | EST_HUMAN             | BE0986514F1 NIH_MCC_70 Homo sapiens cDNA clone IMAGE:30015635'   |                    |
| 11549            | 24147           | 37458          | 1.68              | 1.0E-118 BE098678.1              | EST_HUMAN             | BE0986514F1 NIH_MCC_70 Homo sapiens cDNA clone IMAGE:30015635'   |                    |
| 11551            | 24150           | 37461          | 1.61              | 1.0E-118 BF092687.1              | EST_HUMAN             | QW0JUM0091-1202000-385-b12 UIM0991 Homo sapiens cDNA   |                    |
| 11551            | 24150           | 37462          | 1.61              | 1.0E-118 BF093687.1              | EST_HUMAN             | QW0JUM0091-1202000-385-b12 UIM0991 Homo sapiens cDNA   |                    |
| 741              | 13514           | 28173          | 0.97              | 1.0E-119 AF170492.1              | NT                    | Homo sapiens chloride channel CLC4 (CLC4) mRNA, complete cds   |                    |
| 1014             | 15558           | 28433          | 1.61              | 1.0E-119                         | 7705307 NT            | Homo sapiens CGI-105 protein (LOC51011), mRNA  |                    |
| 1928             | 14682           | 27374          | 5.97              | 1.0E-119 AB023147.1              | NT                    | Homo sapiens mRNA for KIAA06830 protein, partial cds   |                    |
| 30989            | 15884           | 28508          | 1.57              | 1.0E-119                         | 8822205 NT            | Homo sapiens hypothetical protein FLJ10052 (FLJ10052), mRNA on10905.s1 NCI_CGAP_Lu5 Homo sapiens cDNA clone IMAGE:15682413' similar to WP:EE4AF8.2   |                    |
| 3294             | 15996           |                | 0.8               | 1.0E-119 AA916780.1              | EST_HUMAN             | CE01214;   |                    |
| 3894             | 16684           | 28925          | 1.42              | 1.0E-119                         | 4504416 NT            | Homo sapiens glutamate receptor, ionotropic, kainate 1 (GRK1) mRNA ALJ33368 NT2RP4.1 Homo sapiens cDNA clone NT2RP400138915'   |                    |
| 5253             | 18059           | 30688          | 2.5               | 1.0E-119 AU133398.1              | EST_HUMAN             | AU133398 NT2RP4.1 Homo sapiens cDNA clone NT2RP400138915'  |                    |
| 5268             | 18072           | 30701          | 21.82             | 1.0E-119 MB88914.1               | NT                    | Human neurofibromin (NF1) gene, complete cds   |                    |
| 5270             | 18076           | 30706          | 3.11              | 1.0E-119 BE838121.1              | EST_HUMAN             | RCI-HN0073-260800-018-g08 NN0073 Homo sapiens cDNA   |                    |
| 5347             | 18150           | 30830          | 1.63              | 1.0E-119 AV683731.1              | EST_HUMAN             | AV683731 GKC Homo sapiens cDNA clone GKCDH1035'  |                    |
| 5503             | 18301           | 31201          | 0.63              | 1.0E-119 AI134803.1              | EST_HUMAN             | DKFZp762M0710_1762 (synonym: lme2) Homo sapiens cDNA clone DKFZp762M0710_5'  |                    |
| 5503             | 18301           | 31202          | 0.63              | 1.0E-119 AI134803.1              | EST_HUMAN             | DKFZp762M0710_1762 (synonym: lme2) Homo sapiens cDNA clone DKFZp762M0710_5'  |                    |
| 6038             | 18816           | 31776          | 7.67              | 1.0E-119 AI150703.1              | EST_HUMAN             | qb77c99.x1 Scores fatal heart [NIH-HEW Homo sapiens cDNA clone IMAGE:17031283' similar to SW_X1CJ_MOUSE_P02636 KERATIN, TYPE I CYTOSKELETON 10 ;   |                    |
| 6180             | 18957           | 31940          | 0.92              | 1.0E-119 AF315683.1              | NT                    | Homo sapiens matrix metalloproteinase 28 (MMP28) mRNA, complete cds  |                    |
| 6190             | 18957           | 31941          | 0.92              | 1.0E-119 AF315683.1              | NT                    | Homo sapiens matrix metalloproteinase 28 (MMP28) mRNA, complete cds  |                    |
| 6239             | 18013           | 31987          | 0.85              | 1.0E-119 AF476732.1              | EST_HUMAN             | tm23110.x1 Scores_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:21574513'   |                    |
| 6370             | 19139           | 32135          | 2.62              | 1.0E-119 X08282.1                | NT                    | Human c-fes/fps proto-oncogene   |                    |
| 6380             | 19149           | 32148          | 4.69              | 1.0E-119 AW974193.1              | EST_HUMAN             | EST3862896 MAGM Homo sapiens cDNA  |                    |
| 7310             | 18983           | 33070          | 1.5               | 1.0E-119 BE786814.1              | EST_HUMAN             | BE786805F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:39468815'   |                    |
| 8580             | 21252           | 34390          | 1.19              | 1.0E-119 BE615190.1              | EST_HUMAN             | BE615058F1 NIH_MGC_39 Homo sapiens cDNA clone IMAGE:36225285'  |                    |

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| Probe Seq ID No: | Exon Seq ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|---|
| 8807             | 22458           | 356833         | 1.16              | 1.0E-119                         | 11036843              | NT                      | Homo sapiens KIAA0477 gene product (KIAA0477), mRNA<br>q43811_X1_Soares,_testis_NIH Homo sapiens cDNA clone IMAGE:1762784 3' similar to TR:Q13458 |
| 10008            | 22654           | 358867         | 0.55              | 1.0E-119                         | AH49798.1             | EST HUMAN               | Q13458 GUANINE NUCLEOTIDE EXCHANGE FACTOR PROTEIN TRIO ;  |
| 10146            | 22794           | 360008         | 3.36              | 1.0E-119                         | AA465124.1            | EST HUMAN               | aa32055.1 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:814977 5'   |
| 10401            | 23047           | 362633         | 1.29              | 1.0E-119                         | AJ297701.1            | NT                      | Homo sapiens partial IL-12RB1 gene for IL-12 receptor beta1 chain, exons 16-17  |
| 10443            | 23089           | 363117         | 0.71              | 1.0E-119                         | 11425837              | NT                      | Homo sapiens hypothetical protein FLJ10206 (FLJ10206), mRNA   |
| 10443            | 23089           | 363118         | 0.71              | 1.0E-119                         | 11425837              | NT                      | Homo sapiens hypothetical protein FLJ10206 (FLJ10206), mRNA   |
| 10517            | 23163           | 363390         | 4.18              | 1.0E-119                         | AB032261.1            | NT                      | Homo sapiens Scd mRNA for steroyl-CoA desaturase, complete cds  |
| 10985            | 23650           | 36913          | 2.38              | 1.0E-119                         | AJ297701.1            | NT                      | Homo sapiens partial IL-12RB1 gene for IL-12 receptor beta1 chain, exons 16-17  |
| 10985            | 23660           | 36914          | 2.38              | 1.0E-119                         | AJ297701.1            | NT                      | Homo sapiens partial IL-12RB1 gene for IL-12 receptor beta1 chain, exons 16-17  |
| 11159            | 23826           |                | 6.31              | 1.0E-119                         | BF569571.1            | EST HUMAN               | 602186072F1 NIH MGC_45 Homo sapiens cDNA clone IMAGE:4310633 5'   |
| 12188            | 238326          |                | 2.16              | 1.0E-119                         | AW847519.1            | EST HUMAN               | RC3-CT0212-240889-011-403 CT0212 Homo sapiens cDNA  |
| 294              | 13100           | 25741          | 1.43              | 1.0E-120                         | 4507334               | NT                      | Homo sapiens synaptotatin 1 (SYN1), mRNA  |
| 1018             | 13778           | 28439          | 2.49              | 1.0E-120                         | AF248540.1            | NT                      | Homo sapiens Intersectin 2 (SH3D1B) mRNA, complete cds  |
| 1018             | 13778           | 28440          | 2.49              | 1.0E-120                         | AF248540.1            | NT                      | Homo sapiens Intersectin 2 (SH3D1B) mRNA, complete cds  |
| 1405             | 14152           | 28832          | 2.31              | 1.0E-120                         | N44873.1              | EST HUMAN               | yy0912.11 Soares cysteine-rich repeat-containing protein S22 precursor, mRNA, complete cds  |
| 1597             | 14343           | 27033          | 3.08              | 1.0E-120                         | AF167708.1            | NT                      | Homo sapiens dihydroxyacetone phosphate domain 10 (ADAM10) mRNA   |
| 1788             | 14539           | 27250          | 1.21              | 1.0E-120                         | 4557250               | NT                      | Homo sapiens disintegrin and metalloprotease domain 10 (ADAM10) mRNA  |
| 2100             | 14831           | 27585          | 0.92              | 1.0E-120                         | AB011389.1            | NT                      | Homo sapiens gene for AF-8, complete cds  |
| 2100             | 14831           | 27586          | 0.82              | 1.0E-120                         | AB011389.1            | NT                      | Homo sapiens gene for AF-8, complete cds  |
| 2631             | 15247           | 27985          | 5.24              | 1.0E-120                         | 4755124               | NT                      | Homo sapiens aquaporin 4 (AQP4), splice variant b, mRNA   |
| 3302             | 13100           | 25741          | 1.59              | 1.0E-120                         | 4507334               | NT                      | Homo sapiens synaptotatin 1 (SYN1), mRNA  |
| 4325             | 17084           | 286892         | 1.85              | 1.0E-120                         | AF058490.1            | NT                      | Homo sapiens cAMP-specific phosphodiesterase 8A (PDE8A) mRNA, partial cds   |
| 4325             | 17084           | 286933         | 1.85              | 1.0E-120                         | AF058490.1            | NT                      | Homo sapiens cAMP-specific phosphodiesterase 8A (PDE8A) mRNA, partial cds   |
| 4614             | 17349           | 28983          | 2.22              | 1.0E-120                         | AF098463.1            | NT                      | Homo sapiens stanniocalcin (STC) gene, partial cds  |
| 4614             | 17349           | 28984          | 2.22              | 1.0E-120                         | AF098463.1            | NT                      | Homo sapiens stanniocalcin (STC) gene, partial cds  |
| 5065             | 17784           | 30401          | 1.36              | 1.0E-120                         | 4504116               | NT                      | Homo sapiens glutamate receptor, ionotropic, kainate 1 (GRIK1) mRNA   |
| 5133             | 17851           | 30468          | 0.9               | 1.0E-120                         | AB198903.1            | EST HUMAN               | qd6f103_X1_Soares,_testis_NIH Homo sapiens cDNA clone IMAGE:1733881 3'  |
| 5649             | 18444           | 31357          | 16.61             | 1.0E-120                         | BF568222.1            | EST HUMAN               | 602183394F1 NIH MGC_42 Homo sapiens cDNA clone IMAGE:43001174 5'  |
| 5649             | 18444           | 31358          | 16.61             | 1.0E-120                         | BF568222.1            | EST HUMAN               | 602183394F1 NIH MGC_42 Homo sapiens cDNA clone IMAGE:43001174 5'  |
| 6350             | 19120           | 32110          | 0.57              | 1.0E-120                         | M29428.1              | NT                      | Human P-glycoprotein (MDR1) gene, exons 6 and 7   |
| 6350             | 19120           | 32111          | 0.57              | 1.0E-120                         | M29428.1              | NT                      | Human P-glycoprotein (MDR1) gene, exons 6 and 7   |
| 7471             | 20144           | 33236          | 1.77              | 1.0E-120                         | D34619.1              | NT                      | Human TBXAS1 gene for thromboxane synthase, exon 7  |
| 7795             | 20490           | 33612          | 5.22              | 1.0E-120                         | Y00067.1              | NT                      | Human gene for neurofilament subunit M (NF-M)   |

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Table 4  
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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLASTE Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|-------------------------------------|-----------------------|-------------------------|--|
| 7785             | 20480           | 38813          | 5.22              | 1.0E-120                            | Y00067.1              | NT                      | Human gene for neurofilament subunit M (NF-M)  |
| 8230             | 20924           | 34063          | 2.43              | 1.0E-120                            | BF337599.1            | EST_HUMAN               | 6020835352F-1 NCI_CGAP_Bm64 Homo sapiens cDNA clone IMAGE:4183333 5'                             |
| 8503             | 20897           | 34135          | 0.85              | 1.0E-120                            | AB033057.1            | NT                      | Home sapiens mRNA for KIAA1231 protein, partial cds  |
| 8503             | 20897           | 34136          | 0.85              | 1.0E-120                            | AB083057.1            | NT                      | Home sapiens mRNA for KIAA1231 protein, partial cds  |
| 8507             | 21001           | 34138          | 2.38              | 1.0E-120                            | AB007884.1            | NT                      | Home sapiens mRNA, chromosome 1 specific transcript KIAA0495                                     |
| 8507             | 21001           | 34139          | 2.38              | 1.0E-120                            | AB007884.1            | NT                      | Home sapiens mRNA, chromosome 1 specific transcript KIAA0495                                     |
| 8552             | 21045           | 34182          | 1.17              | 1.0E-120                            | AB007834.1            | NT                      | Home sapiens cDNA clone IMAGE:3625544 5'   |
| 9401             | 22063           | 35233          | 5.26              | 1.0E-120                            | BE392102.1            | EST_HUMAN               | 601307739F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3625544 5'                                  |
| 9401             | 22063           | 35234          | 5.26              | 1.0E-120                            | BE392102.1            | EST_HUMAN               | 601307739F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3625544 5'                                  |
| 8845             | 22287           | 35402          | 3.75              | 1.0E-120                            | BF08541.1             | EST_HUMAN               | 601888856F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:412876 5'                                   |
| 8860             | 22312           | 35510          | 8.25              | 1.0E-120                            | AU133205.1            | EST_HUMAN               | AU133205 NT2RP4 Homo sapiens cDNA clone NT2RP4 similar to rat RhoGAP                             |
| 8877             | 22329           | 35525          | 0.79              | 1.0E-120                            | AL04801.1             | NT                      | Novel human gene mapping to chromosome 13, similar to rat RhoGAP                                 |
| 9782             | 22443           |                | 0.64              | 1.0E-120                            | AB04151.1             | EST_HUMAN               | CM-BT043-080288-075 B1043 Homo sapiens cDNA CM-BT043-080288-075 B1043                            |
| 8978             | 22824           | 35583          | 2.55              | 1.0E-120                            | AB28000.1             | NT                      | Home sapiens mRNA for KIAA1077 protein, partial cds  |
| 11071            | 23741           | 37015          | 3.72              | 1.0E-120                            | BE288387.1            | EST_HUMAN               | 601176727F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:3832015 5'                                  |
| 11316            | 24007           | 37311          | 2.08              | 1.0E-120                            | BE887619.1            | EST_HUMAN               | 601443135F1 NIH_MGC_65 Homo sapiens cDNA clone IMAGE:3847281 5'                                  |
| 11316            | 24007           | 37312          | 2.08              | 1.0E-120                            | BE887619.1            | EST_HUMAN               | 601443135F1 NIH_MGC_65 Homo sapiens cDNA clone IMAGE:3847281 5'                                  |
| 11680            | 24247           | 37587          | 1.38              | 1.0E-120                            | U94774.1              | NT                      | Human muscle glycogen phosphorylase (PGM) gene, 5'UTR and exon 1                                 |
| 71               | 12898           | 25534          | 1.08              | 1.0E-121                            | Y18000.1              | NT                      | Home sapiens Nov22 gene  |
| 368              | 13105           | 26808          | 0.83              | 1.0E-121                            | AU134963.1            | EST_HUMAN               | AU134883 PLACE1 Homo sapiens cDNA clone PLACE1000889 5'  |
| 707              | 15549           | 28130          | 1.31              | 1.0E-121                            | 5032192               | NT                      | Home sapiens TNF receptor-associated factor 1 (TRAF1) mRNA                                       |
| 1668             | 14315           | 27001          | 2.81              | 1.0E-121                            | AB011153.1            | NT                      | Home sapiens mRNA for KIAA0581 protein, partial cds  |
| 1858             | 14694           | 27407          | 1.33              | 1.0E-121                            | 4755139               | NT                      | Home sapiens Inositol polyphosphate-4-phosphatase, type I, 107D (INPP4A), splice variant 4, mRNA |
| 1858             | 14694           | 27408          | 1.33              | 1.0E-121                            | 4755139               | NT                      | Human prohormone converting enzyme (NEC2) gene, exon 9   |
| 1864             | 14700           | 27416          | 1.18              | 1.0E-121                            | M05968.1              | NT                      | Human prohormone converting enzyme (NEC2) gene, exon 9   |
| 1864             | 14700           | 27416          | 1.18              | 1.0E-121                            | M05968.1              | NT                      | Human prohormone converting enzyme (NEC2) gene, exon 9   |
| 2095             | 14828           | 27659          | 1.51              | 1.0E-121                            | L76631.1              | NT                      | Home sapiens metabotropic glutamate receptor 1 beta (mGluR1beta) mRNA, complete cds              |
| 3079             | 15844           | 28486          | 3.61              | 1.0E-121                            | Y182208.1             | NT                      | Home sapiens mHb3 gene for hair keratin, exons 1 to 9  |
| 3079             | 15844           | 28487          | 3.51              | 1.0E-121                            | Y182208.1             | NT                      | Home sapiens mHb3 gene for hair keratin, exons 1 to 9  |
| 3525             | 16281           | 28936          | 1.19              | 1.0E-121                            | AB037758.1            | NT                      | Home sapiens mRNA for KIAA1357 protein, partial cds  |
| 3525             | 16281           | 28937          | 1.19              | 1.0E-121                            | AB037758.1            | NT                      | Home sapiens mRNA for KIAA1357 protein, partial cds  |
| 3666             | 16119           | 29080          | 7.35              | 1.0E-121                            | AF155156.2            | NT                      | Home sapiens adaptor-related protein complex AP-4 epsilon subunit mRNA, complete cds             |

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 Table 4  
 Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 4296             | 17035           | 20863          | 2                 | 1.0E-121                             | AI232294.1            | EST_HUMAN               | q957001_x1 NCI_CGAP_Pan1 Homo sapiens cDNA clone IMAGE:20056417 3'  |
| 4919             | 17847           | 30259          | 3.24              | 1.0E-121                             | X91937.1              | NT                      | H_sapiens_ECE-1 gene (exon 17)  |
| 5188             | 17894           | 30510          | 0.97              | 1.0E-121                             | BE222250.1            | EST_HUMAN               | hu0988_x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:31068119 3'   |
| 5474             | 18273           | 31187          | 0.85              | 1.0E-121                             | BE271424.1            | EST_HUMAN               | 60114485F1 NIH_MCC_9 Homo sapiens cDNA clone IMAGE:30498200 5'  |
| 6524             | 18290           | 32284          | 0.91              | 1.0E-121                             | M91463.1              | NT                      | Human glucose transporter (GLUT4) gene, complete cds  |
| 6788             | 19532           |                | 0.68              | 1.0E-121                             | AJ271738.1            | NT                      | Homo sapiens Xq pseudodautosomal region, segment 2/2  |
| 6888             | 17843           | 30537          | 1.78              | 1.0E-121                             | AW989886.1            | EST_HUMAN               | RC3-NR0068-270400-011-012 NR0068 Homo sapiens cDNA  |
| 6889             | 17843           | 30538          | 1.78              | 1.0E-121                             | AW989888.1            | EST_HUMAN               | RC3-NR0068-270400-011-012 NR0068 Homo sapiens cDNA  |
| 7838             | 20533           | 33680          | 2.11              | 1.0E-121                             | 11436217.1            | NT                      | Homo sapiens gamma-aminobutyric acid (GABA) A receptor, alpha 2 (GABRA2), mRNA                                  |
| 7842             | 20537           | 33684          | 2.45              | 1.0E-121                             | D84122.1              | NT                      | Homo sapiens DNA for prostacyclin synthase, exon 8  |
| 7842             | 20537           | 33685          | 2.45              | 1.0E-121                             | D84122.1              | NT                      | Homo sapiens DNA for prostacyclin synthase, exon 8  |
| 9768             | 22409           | 35015          | 1.21              | 1.0E-121                             | AW5833858.1           | EST_HUMAN               | iso5g05_y1 Human Pancreatic Islets Homo sapiens cDNA 5 similar to TR:075457 CYTOSOLIC PHOSPHOLIPASE A2-GAMMA.:  |
| 9758             | 22409           | 35016          | 1.21              | 1.0E-121                             | AW5833858.1           | EST_HUMAN               | iso5g05_y1 Human Pancreatic Islets Homo sapiens cDNA 5' similar to TR:075457 CYTOSOLIC PHOSPHOLIPASE A2-GAMMA.: |
| 10675            | 23366           | 36809          | 2.85              | 1.0E-121                             | 11427788.1            | EST_HUMAN               | iso5g05_y1 Human Pancreatic Islets Homo sapiens cDNA 5 similar to TR:075457 CYTOSOLIC PHOSPHOLIPASE A2-GAMMA.:  |
| 10683            | 23374           | 36916          | 1.28              | 1.0E-121                             | AF064200.1            | NT                      | Homo sapiens COX11 (yeast) homolog, cytochrome c oxidase assembly protein (COX11), mRNA                         |
| 10689            | 23569           | 36920          | 3.46              | 1.0E-121                             | 7330354.1             | NT                      | Homo sapiens chondro intracellular channel 4 like (CLIC4L), mRNA  |
| 10917            | 23567           | 36944          | 2.53              | 1.0E-121                             | N56524.1              | EST_HUMAN               | y74401_s1 Scabies fatal liver spiker 1NFLS Homo sapiens cDNA clone IMAGE:248448 3'                              |
| 11309            | 23958           | 37289          | 2.83              | 1.0E-121                             | AU119320.1            | EST_HUMAN               | AU119320 HEMBA1 Homo sapiens cDNA clone HEMBA100565336 5'   |
| 281              | 13059           | 26707          | 2.28              | 1.0E-122                             | 115261178             | NT                      | Homo sapiens T-cell lymphoma invasion and metastasis 1 (Tiam1), mRNA, complete cds                              |
| 327              | 13128           | 26763          | 2.63              | 1.0E-122                             | AF114488.1            | NT                      | Homo sapiens T-cell lymphoma invasion and metastasis 1 (Tiam1), mRNA  |
| 348              | 13147           | 26787          | 2.14              | 1.0E-122                             | 115261178             | NT                      | Homo sapiens Intersectin short isoform (ITSN) mRNA, complete cds  |
| 882              | 13631           | 26802          | 3.89              | 1.0E-122                             | AF114488.1            | NT                      | Homo sapiens Intersectin short isoform (ITSN) mRNA, complete cds  |
| 1188             | 13950           | 26814          | 4.28              | 1.0E-122                             | M220707.1             | NT                      | Human kappa-immunoglobulin germline pseudogenes (Chr22.4) variable region (subgroup V kappa II)                 |
| 1688             | 14432           | 27128          | 1.28              | 1.0E-122                             | AF167706.1            | NT                      | Homo sapiens cysteine-rich repeat-containing protein S52 precursor, mRNA, complete cds                          |
| 1707             | 14450           | 27150          | 1.35              | 1.0E-122                             | 11418424              | NT                      | Homo sapiens collagen, type XI, alpha 1 (COL12A1), mRNA   |
| 1707             | 14450           | 27151          | 1.35              | 1.0E-122                             | 11418424              | NT                      | Homo sapiens collagen, type XI, alpha 1 (COL12A1), mRNA   |
| 1807             | 14547           | 27262          | 4.54              | 1.0E-122                             | BE808024.1            | EST_HUMAN               | 6011497032F1 NIH_MGC_70 Homo sapiens cDNA clone IMAGE:4125234 5'  |
| 2495             | 15212           | 27854          | 6.21              | 1.0E-122                             | BF316170.1            | EST_HUMAN               | 6011838173F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:4125234 5'  |
| 2495             | 15212           | 27955          | 5.21              | 1.0E-122                             | BF316170.1            | EST_HUMAN               | 6011838173F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:4125234 5'  |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 2844             | 155112          | 282860         | 1.41              | 1.0E-122                             | AF284717.1            | NT                      | Homo sapiens FYVE domain-containing dual specificity protein phosphatase FYVE-DSP2 mRNA, complete cds  |
| 4785             | 176286          | 30148          | 5.04              | 1.0E-122                             | 4502168 NT            | EST HUMAN               | Homo sapiens amyloid beta (A4) precursor protein (protease neprilin-1, Alzheimer disease) (APP), mRNA  |
| 4830             | 176898          |                | 1.46              | 1.0E-122                             | AW604645.1            | EST HUMAN               | U1HF-BN0-ell-e-03-0-U-1 NIH_MGC_50 Homo sapiens cDNA clone IMAGE:3354232 5'  |
| 5476             | 18276           | 31170          | 1.36              | 1.0E-122                             | BE256039.1            | EST HUMAN               | 601113667F1 NIH_MGC_18 Homo sapiens cDNA clone IMAGE:3354232 5'  |
| 68698            | 18276           | 31170          | 7.1               | 1.0E-122                             | BE256039.1            | EST HUMAN               | 601113667F1 NIH_MGC_18 Homo sapiens cDNA clone IMAGE:3354232 5'  |
| 7113             | 19801           | 328865         | 0.73              | 1.0E-122                             | AAB88871.1            | EST HUMAN               | AK09108.51 Soesens testis_NHII Homo sapiens cDNA clone IMAGE:1408239 3'  |
| 88895            | 21387           | 34530          | 0.65              | 1.0E-122                             | AJ276801.1            | NT                      | Homo sapiens mRNA for doublesex and mab-3 related transcription factor 1 (DMRT1)   |
| 88286            | 21617           | 34761          | 1.21              | 1.0E-122                             | 11424216 NT           | EST HUMAN               | Homo sapiens lethal giant larvae (Drosophila) homolog 2 (LGL2), mRNA   |
| 9223             | 21802           | 35073          | 1.19              | 1.0E-122                             | AJ358618.1            | EST HUMAN               | Homo sapiens cDNA clone IMAGE:2013757 3' similar to SWMTA1_HUMAN Q13330 METASTASIS-ASSOCIATED PROTEIN MTA1.; q32h107_x1 NCI_C3GAP_Bm23 Homo sapiens cDNA clone IMAGE:2013757 3' similar to SWMTA1_HUMAN Q13330 METASTASIS-ASSOCIATED PROTEIN MTA1. |
| 9223             | 21802           | 35074          | 1.19              | 1.0E-122                             | AJ358618.1            | EST HUMAN               | Novel human gene mapping to chromosome X; isoform of dn (proto-oncogene)   |
| 10034            | 22682           | 358899         | 1.05              | 1.0E-122                             | AL117224.1            | EST HUMAN               | EST367904 MAGE resequences, MAGD_Homo sapiens cDNA   |
| 10808            | 23598           | 368324         | 2.17              | 1.0E-122                             | AW955834.1            | EST HUMAN               | EST_HUMAN EST367904 MAGE resequences, MAGD_Homo sapiens cDNA   |
| 11358            | 24046           | 37349          | 1.88              | 1.0E-122                             | AB024068.1            | NT                      | Homo sapiens gene for B120, exon 10  |
| 11858            | 24509           |                | 6.6               | 1.0E-122                             | 11418187 NT           | EST HUMAN               | Homo sapiens phosphomannomutase 1 (PMM1), mRNA   |
| 751              | 13523           | 26181          | 1.74              | 1.0E-123                             | BF345274.1            | EST HUMAN               | 6020118058F1 NCI CGAP_Bm67 Homo sapiens cDNA clone IMAGE:4153670 5'  |
| 751              | 13523           | 26182          | 1.74              | 1.0E-123                             | BF345274.1            | EST HUMAN               | 6020118058F1 NCI CGAP_Bm67 Homo sapiens cDNA clone IMAGE:4153670 5'  |
| 892              | 13754           | 28416          | 5.4               | 1.0E-123                             | AL163249.2            | NT                      | Homo sapiens chromosome 21 segment HS21C049  |
| 1001             | 13761           | 28422          | 2.5               | 1.0E-123                             | 6803114 NT            | EST HUMAN               | Homo sapiens inner membrane protein, mitochondrial (mitoflin) (IMMT), mRNA   |
| 1216             | 13966           | 28634          | 5.58              | 1.0E-123                             | 4505818 NT            | EST HUMAN               | Homo sapiens phosphatidylinositol-4-phosphate 5-kinase, type II, beta (PIP5K2B) mRNA, and translated products  |
| 1216             | 13968           | 28635          | 5.58              | 1.0E-123                             | 4505818 NT            | EST HUMAN               | Homo sapiens phosphatidylinositol-4-phosphate 5-kinase, type II, beta (PIP5K2B) mRNA, and translated products  |
| 1438             | 14185           | 28871          | 0.91              | 1.0E-123                             | AJ368841.1            | NT                      | Homo sapiens partial mRNA for immunoglobulin kappa chain variable region (IGV gene), sample GN02   |
| 2082             | 14823           | 27555          | 2.7               | 1.0E-123                             | ME55419.1             | NT                      | Human amelogenin (AMELY) gene, 3' end of cds   |
| 2092             | 14823           | 27556          | 2.7               | 1.0E-123                             | ME55419.1             | NT                      | Human amelogenin (AMELY) gene, 3' end of cds   |
| 2092             | 14823           | 27557          | 2.7               | 1.0E-123                             | ME55419.1             | NT                      | Human amelogenin (AMELY) gene, 3' end of cds   |
| 2213             | 15038           |                | 3.62              | 1.0E-123                             | 7705962 NT            | EST HUMAN               | Homo sapiens RAB9-like protein (LOC51209), mRNA  |
| 3245             | 16007           | 28857          | 0.95              | 1.0E-123                             | 6912617 NT            | EST HUMAN               | Homo sapiens glutaminyl-peptide cyclotransferase (glutaminyl cyclase) (QPC1), mRNA   |
| 5361             | 18163           | 30847          | 1.56              | 1.0E-123                             | L34219.1              | NT                      | Homo sapiens reineckedehyde-binding protein (CRALBP) gene, complete cds  |

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**Table 4**  
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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLASTE Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|-------------------------------------|-----------------------|-------------------------|---|
| 5361 18163       | 30848           |                | 1.50              | 1.0E-123                            | L34219.1              | NT                      | Homo sapiens retinaldehyde-binding protein (CRAIBP) gene, complete cds  |
| 5494 18293       | 31191           |                | 1.62              | 1.0E-123                            | BET89746.1            | EST_HUMAN               | 6011591108F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE-3945433 5'   |
| 6377 19146       | 32145           |                | 2.59              | 1.0E-123                            | AU118435.1            | EST_HUMAN               | AU118435 HEMBA1 Homo sapiens cDNA clone HEMBA1003591 5'   |
| 6805 19843       | 32688           |                | 1.2               | 1.0E-123                            | H53198.1              | EST_HUMAN               | YQ84603.1 Seares fetal liver spleen INFSL Homo sapiens cDNA clone IMAGE-202444 5' similar to SP:YAK1 YEAST P14680 PROTEIN KINASE YAK1 |
| 6915 19852       | 32698           |                | 1.25              | 1.0E-123                            | U42224.1              | NT                      | Human growth hormone releasing hormone gene, exon 7   |
| 7094 19783       | 32849           |                | 2.87              | 1.0E-123                            | U55258.1              | NT                      | Human H2RAVON/Nr-CAM precursor (H2RAVON/Nr-CAM) gene, complete cds  |
| 7302 19885       | 33061           |                | 1.62              | 1.0E-123                            | -11525833             | NT                      | Homo sapiens heparan sulfate (glucosamine) 3-O-sulfotransferase 2 (HS3ST2), mRNA  |
| 7542 20212       | 33312           |                | 1.3               | 1.0E-123                            | 11436439              | NT                      | Human sapiens 2'-5'digoxadenylylats synthetase 2 (OAS2), mRNA   |
| 7651 20221       | 33324           |                | 2.18              | 1.0E-123                            | BE263001.1            | EST_HUMAN               | 601152815F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE-3569162 5'   |
| 7816 20511       | 33636           |                | 0.67              | 1.0E-123                            | AU131681.1            | EST_HUMAN               | AU131681 NT2RP3 Homo sapiens cDNA clone NT2RP3003409 5'   |
| 7816 20511       | 33637           |                | 0.67              | 1.0E-123                            | AU131681.1            | EST_HUMAN               | AU131681 NT2RP3 Homo sapiens cDNA clone NT2RP3003409 5'   |
| 8433 21128       |                 |                | 1.13              | 1.0E-123                            | AV371924.1            | EST_HUMAN               | RC4-BT0311-261198-012-a07 BT0311 Homo sapiens cDNA  |
| 9269 22023       | 35183           |                | 2.43              | 1.0E-123                            | AB007923.1            | NT                      | Homo sapiens mRNA for KIAA0454 protein, partial cds   |
| 9405 22067       | 35239           |                | 15.48             | 1.0E-123                            | U09823.1              | NT                      | Oryctolagus cuniculus New Zealand white elongation factor 1 alpha (Rabef1a2) mRNA, complete cds                                       |
| 11720 24914      | 37637           |                | 4.88              | 1.0E-123                            | BF677282.1            | EST_HUMAN               | 602088781F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE-4250878 5'   |
| 11720 24914      | 37638           |                | 4.88              | 1.0E-123                            | BF677282.1            | EST_HUMAN               | 602088781F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE-4250879 5'   |
| 282 13070        | 25708           |                | 2.18              | 1.0E-124                            | 4507900               | NT                      | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TIAM1) mRNA   |
| 282 13070        | 25709           |                | 2.18              | 1.0E-124                            | 4507900               | NT                      | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TIAM1) mRNA   |
| 268 13076        |                 |                | 2.89              | 1.0E-124                            | D87676.1              | NT                      | Homo sapiens DNA for amyloid precursor protein, complete cds  |
| 473 13259        | 25898           |                | 2.84              | 1.0E-124                            | AL163246.2            | NT                      | HS21C046  |
| 676 13450        | 26092           |                | 2.68              | 1.0E-124                            | AA387551.1            | EST_HUMAN               | 2B1104.1 Strategene schizo brain S11 Homo sapiens cDNA clone IMAGE-728718 5' similar to TR-G300482                                    |
| 676 13450        | 26093           |                | 2.68              | 1.0E-124                            | AA397551.1            | EST_HUMAN               | GS00482 POL-REVERSE TRANSCRIPTASE HOMOLOG (RETROVIRAL ELEMENT);   |
| 742 13515        | 26174           |                | 7.84              | 1.0E-124                            | AF155684.1            | NT                      | 2B1104.1 Strategene schizo brain S11 Homo sapiens cDNA clone IMAGE-728718 5' similar to TR-G300482                                    |
| 790 13582        | 26223           |                | 1.61              | 1.0E-124                            | 4507900               | NT                      | Human putative fibosomal protein S1 mRNA  |
| 884 13683        | 26321           |                | 1.84              | 1.0E-124                            | 7705446               | NT                      | Human putative fibosomal protein (I-SPC068), mRNA   |
| 1325 14074       | 26747           |                | 4.95              | 1.0E-124                            | AF274882.1            | NT                      | Homo sapiens hypothetical protein (I-SPC068), mRNA  |
| 1325 14074       | 26748           |                | 4.95              | 1.0E-124                            | AF274882.1            | NT                      | Homo sapiens glucose transporter 3 gene, exons 9, 10, and complete cds  |
| 1808 14548       | 27263           |                | 2.29              | 1.0E-124                            | AJ131712.1            | NT                      | Homo sapiens mRNA for nucleolar RNA-helicase (nuclei gene)  |
| 2054 14786       | 27512           |                | 3.05              | 1.0E-124                            | BE8735224.1           | EST_HUMAN               | 601491715F1 NIH_MGC_69 Homo sapiens cDNA clone IMAGE-3838954 5'   |
| 3358 16118       | 28774           |                | 0.85              | 1.0E-124                            | 4504416               | NT                      | Homo sapiens glutamate receptor, ionotropic, kainate 1 (GRIK1) mRNA   |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLASTE Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|---------------------------|-----------------------|---|--------------------|
| 3482             | 16239           | 28895          | 1.25              | 1.0E-124 S78884.1         | NT                    | Human sapiens ATP-sensitive inwardly rectifying K-channel subunit (KCNJ6&BIR1) gene, exon               |                    |
| 3482             | 16239           | 28898          | 1.25              | 1.0E-124 S78884.1         | NT                    | Human sapiens ATP-sensitive inwardly rectifying K-channel subunit (KCNJ6&BIR1) gene, exon               |                    |
| 3840             | 16383           | 28033          | 1.54              | 1.0E-124 X13794.1         | NT                    | H.sapiens lactate dehydrogenase B gene exon 1 and 2 (EC 1.1.1.27) (and joined CDS)                      |                    |
| 3880             | 16830           | 29269          | 1                 | 1.0E-124 4507500          | NT                    | Human sapiens T-cell lymphoma invasion and metastasis 1 (TIAM1) mRNA                                    |                    |
| 4066             | 16801           | 29432          | 1.34              | 1.0E-124 4504116          | NT                    | Human sapiens glutamate receptor, ionotropic, kainate 1 (GRIK1) mRNA                                    |                    |
| 4698             | 17430           | 30061          | 1.94              | 1.0E-124 AB024069.1       | NT                    | Human sapiens gene extra type III repeat (EDIII), exon x1   |                    |
| 4881             | 17608           |                | 1.13              | 1.0E-124 M1878.1          | NT                    | Human fibronectin gene extra type III repeat (EDIII), exon x1   |                    |
| 5216             | 18023           | 30847          | 12.12             | 1.0E-124 8922237          | NT                    | Human sapiens hypothetical protein FLJ10300 (FLJ10300) mRNA   |                    |
| 5586             | 18383           | 31283          | 0.92              | 1.0E-124 4505785          | NT                    | Human sapiens IQ motif containing GTPase activating protein 1 (IQGAP1) mRNA                             |                    |
| 5787             | 18588           | 31514          | 6.94              | 1.0E-124 BF898135.1       | EST_HUMAN             | 602124844F1 NIH MGIC_56 Homo sapiens cDNA clone IMAGE:4281635 5'  |                    |
| 6077             | 18858           | 31823          | 0.91              | 1.0E-124 AV711283.1       | EST_HUMAN             | AV711283 Cu Homo sapiens cDNA clone CuAADF07 5'   |                    |
| 6339             | 19109           | 32089          | 0.98              | 1.0E-124 11420854         | NT                    | Human sapiens ubiquitin specific protease 9, X chromosome (Drosophila fat facets related) (USP9X), mRNA |                    |
| 6912             | 19849           | 32695          | 2.95              | 1.0E-124 Y11717.1         | NT                    | M.musculus mRNA for hoxe3 gene  |                    |
| 7037             | 19729           | 32798          | 0.94              | 1.0E-124 BE271295.1       | EST_HUMAN             | 600943771F1 NIH MGIC_8 Homo sapiens cDNA clone IMAGE:29688585 5'  |                    |
| 7037             | 19729           | 32787          | 0.94              | 1.0E-124 BE271295.1       | EST_HUMAN             | 600943771F1 NIH MGIC_8 Homo sapiens cDNA clone IMAGE:29688585 5'  |                    |
| 7452             | 20128           | 33220          | 0.92              | 1.0E-124 AA630331.1       | EST_HUMAN             | ac08h05_s1 Strategene HeLa cell s3 837216 Homo sapiens cDNA clone IMAGE:8558897 3'                      |                    |
| 8168             | 20850           | 33982          | 8.07              | 1.0E-124 4606854          | NT                    | Human sapiens ribosomal protein L5 (RPL5) mRNA  |                    |
| 8362             | 21055           | 34195          | 1.28              | 1.0E-124 AW612106.1       | EST_HUMAN             | hg04at9_x1 NCI CGAP_Kt11 Homo sapiens cDNA clone IMAGE:2953240 3' similar to TR:095162                  |                    |
| 8362             | 21055           | 34196          | 1.28              | 1.0E-124 AW612106.1       | EST_HUMAN             | hg04at9_x1 NCI CGAP_Kt11 Homo sapiens cDNA clone IMAGE:2953240 3' similar to TR:095162                  |                    |
| 8060             | 21749           | 34907          | 0.61              | 1.0E-124 A768864.1        | EST_HUMAN             | OB0162 PEROXISOMAL SHORT-CHAIN ALCOHOL DEHYDROGENASE :  |                    |
| 8060             | 21749           | 34608          | 0.61              | 1.0E-124 A768864.1        | EST_HUMAN             | hg04at9_x1 NCI CGAP_P728 Homo sapiens cDNA clone IMAGE:2321428 3'                                       |                    |
| 8390             | 22052           | 35223          | 2.31              | 1.0E-124 AV645633.1       | EST_HUMAN             | hg04at9_x1 NCI CGAP_P728 Homo sapiens cDNA clone IMAGE:2321428 3'                                       |                    |
| 8390             | 22052           | 35224          | 2.31              | 1.0E-124 AV645633.1       | EST_HUMAN             | AV645633 GLC Homo sapiens cDNA clone GLCA.CE04 3'   |                    |
| 9477             | 22130           | 36309          | 0.62              | 1.0E-124 AF022655.1       | NT                    | Human sapiens cep250 centrosome associated protein mRNA, complete cds                                   |                    |
| 9477             | 22130           | 35310          | 0.52              | 1.0E-124 AF022655.1       | NT                    | Human sapiens cep250 centrosome associated protein mRNA, complete cds                                   |                    |
| 8508             | 22161           | 35342          | 7.57              | 1.0E-124 A1767133.1       | EST_HUMAN             | Wf63022x1 NCI CGAP_Kat12 Homo sapiens cDNA clone IMAGE:2400891 3'                                       |                    |
| 8508             | 22161           | 35343          | 7.57              | 1.0E-124 A1767133.1       | EST_HUMAN             | Wf63022x1 NCI CGAP_Kat12 Homo sapiens cDNA clone IMAGE:2400891 3'                                       |                    |
| 9771             | 22422           | 35630          | 1.57              | 1.0E-124 AW503755.1       | EST_HUMAN             | U-HF-BN0-ehz-h-04-o-U.1 NIH MGIC_50 Homo sapiens cDNA clone IMAGE:3078846 5'                            |                    |
| 10804            | 23487           |                | 1.44              | 1.0E-124 11432887         | NT                    | Human sapiens leucine-rich, glioma inactivated 1 (LGI1), mRNA   |                    |
| 10976            | 23652           | 36805          | 1.61              | 1.0E-124 UK4778.1         | NT                    | Human muscle glycogen phosphorylase (PYGM) gene, exons 6 through 17                                     |                    |
| 11305            | 23984           | 37285          | 3.51              | 1.0E-124 AW665683.1       | EST_HUMAN             | hg05c06_x1 Seares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2950906 3'                                 |                    |

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Table 4

## Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 11452            | 23219           | 36452          |                   | 3.0E-124                             | AA448455.1            | EST_HUMAN               | gi 8863_x1 NCI_CGAP_Gas4_Homo sapiens cDNA clone IMAGE:2141980 3' similar to TR:031662_031662 |
| 11452            | 23219           | 36453          |                   | 3.0E-124                             | AA448455.1            | EST_HUMAN               | gi 8863_x1 NCI_CGAP_Gas4_Homo sapiens cDNA clone IMAGE:2141980 3' similar to TR:031662_031662 |
| 12029            | 13450           | 26092          |                   | 4.1                                  | 1.0E-124              | AA397551.1              | EST_HUMAN   |
| 12029            | 13450           | 26093          |                   | 4.1                                  | 1.0E-124              | AA397551.1              | EST_HUMAN   |
| 12454            | 24823           | 31028          |                   | 1.61                                 | 1.0E-124              | AB0289016.1             | NT  |
| 12708            | 25279           | 30728          |                   | 1.44                                 | 1.0E-124              | 11417862                | NT  |
| 12708            | 25278           | 30730          |                   | 1.44                                 | 1.0E-124              | 11417862                | NT  |
| 148              | 12881           | 25803          |                   | 1.74                                 | 1.0E-125              | BE219510.1              | EST_HUMAN   |
| 148              | 12881           | 25804          |                   | 1.74                                 | 1.0E-125              | BE219510.1              | EST_HUMAN   |
| 311              | 13115           |                |                   | 5.49                                 | 1.0E-125              | AB032988.1              | NT  |
| 417              | 12828           | 25441          |                   | 5.47                                 | 1.0E-126              | BE743922.1              | EST_HUMAN   |
| 628              | 13408           | 26043          |                   | 1.18                                 | 1.0E-125              | AI110658.1              | EST_HUMAN   |
| 629              | 13408           | 26044          |                   | 1.18                                 | 1.0E-125              | AI110658.1              | EST_HUMAN   |
| 711              | 13485           | 26134          |                   | 1.58                                 | 1.0E-125              | AF254750.1              | NT  |
| 840              | 13610           | 26280          |                   | 2.28                                 | 1.0E-125              | AA042813.1              | EST_HUMAN   |
| 978              | 13743           | 28405          |                   | 1.22                                 | 1.0E-125              | AL163210.2              | NT  |
| 1131             | 13887           | 28545          |                   | 1.78                                 | 1.0E-125              | 7692279                 | NT  |
| 1668             | 16575           | 27105          |                   | 0.89                                 | 1.0E-125              | 7691867                 | NT  |
| 1783             | 14533           | 27242          |                   | 0.91                                 | 1.0E-125              | U78027.1                | NT  |
| 1804             | 14544           | 27258          |                   | 1.59                                 | 1.0E-125              | AF015450.1              | NT  |
| 1804             | 14544           | 27258          |                   | 1.59                                 | 1.0E-125              | AF015450.1              | NT  |
| 2358             | 15080           | 27816          |                   | 1.88                                 | 1.0E-125              | AA011278.1              | EST_HUMAN   |
| 2508             | 15225           | 27937          |                   | 0.89                                 | 1.0E-125              | AA042813.1              | EST_HUMAN   |
| 2604             | 15317           | 28057          |                   | 1.3                                  | 1.0E-125              | 4504686                 | NT  |
| 2604             | 15317           | 28058          |                   | 1.3                                  | 1.0E-125              | 4504696                 | NT  |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source                                | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|---|
| 3009             | 17874           | 28425          | 0.94              | 1.0E-125                             | BE018009.1            | EST_HUMAN  | bb74f03.y1 NIH_MGC_12 Homo sapiens cDNA clone IMAGE:3048131 5' similar to TR:O95604 O95604  |
| 3839             | 16580           | 28228          | 0.82              | 1.0E-125                             | AA042813.1            | EST_HUMAN  | ZINC FINGER PROTEIN : ZF5307.s1 Soenes_pregnant_uterus_NbHPU Homo sapiens cDNA clone IMAGE:486540 3' similar to gb>655857_cds1 OLFACTORY RECEPTOR-LIKE PROTEIN HGMPO7E (HUMAN); |
| 4513             | 17248           | 29883          | 2.09              | 1.0E-125                             | 11425114 NT           | Homo sapiens zinc finger protein ZNF287 (ZNF287), mRNA | Homo sapiens zinc finger protein ZNF287 (ZNF287), mRNA  |
| 4513             | 17248           | 29884          | 2.08              | 1.0E-125                             | 11425114 NT           | Homo sapiens zinc finger protein ZNF287 (ZNF287), mRNA | Homo sapiens NCI CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3177688 3' similar to TR:Q25058 Q25058   |
| 4971             | 12981           | 25603          | 1.48              | 1.0E-126                             | BE218510.1            | EST_HUMAN  | h59a68.x1 NCI CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3177688 3' similar to TR:Q25058 Q25058  |
| 4971             | 12981           | 25604          | 1.48              | 1.0E-125                             | BE218510.1            | EST_HUMAN  | FIBROPELLINA IA ; Homo sapiens KIAA0985 protein (KIAA0985), mRNA  |
| 5783             | 18574           | 31603          | 3.16              | 1.0E-125                             | 11438448 NT           | EST_HUMAN  | QV2-HT0577-010500-165-508 HT0577 Homo sapiens cDNA clone IMAGE:39118832 5'  |
| 5802             | 18592           | 31517          | 0.91              | 1.0E-125                             | BE175169.1            | EST_HUMAN  | 601433472F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:258108 3' similar to WP:C45C9.2  |
| 5842             | 18630           | 31565          | 3.76              | 1.0E-125                             | BE892680.1            | EST_HUMAN  | 1.677cd7.x1 NCI CGAP_G884 Homo sapiens cDNA clone IMAGE:258108 3' similar to WP:C45C9.2   |
| 5884             | 18570           | 31611          | 0.74              | 1.0E-126                             | AIR78604.1            | EST_HUMAN  | CE011854 : Homo sapiens cDNA clone IMAGE:36400397 5'  |
| 6188             | 18695           | 31838          | 0.8               | 1.0E-125                             | BE736055.1            | EST_HUMAN  | 601305670F1 NIH_MGC_39 Homo sapiens cDNA clone IMAGE:3689780 5'   |
| 6488             | 19253           | 32263          | 1.63              | 1.0E-125                             | BE962528.1            | EST_HUMAN  | 601335826F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3689780 5'   |
| 6489             | 19253           | 32254          | 1.63              | 1.0E-125                             | BE962528.1            | EST_HUMAN  | 601335826F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3689780 5'   |
| 6861             | 19443           | 32486          | 5.26              | 1.0E-125                             | X03427.1              | NT   | Homo sapiens GF-4I gene, exon 5   |
| 6861             | 19443           | 32490          | 5.26              | 1.0E-125                             | X03427.1              | NT   | Homo sapiens GF-4I gene, exon 5   |
| 7708             | 20370           | 33483          | 0.55              | 1.0E-125                             | BE515100.1            | EST_HUMAN  | 601236183F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3808084 5'   |
| 8444             | 21138           | 34273          | 0.98              | 1.0E-125                             | UR0288.1              | NT   | Human chromosome 10 duplicated adrenoleukodystrophy (ALD) gene segment containing exons 8-10  |
| 8444             | 21136           | 34274          | 0.88              | 1.0E-125                             | U90288.1              | NT   | Human chromosome 10 duplicated adrenoleukodystrophy (ALD) gene segment containing exons 8-10  |
| 9016             | 21708           | 34856          | 6.83              | 1.0E-125                             | BE161640.1            | EST_HUMAN  | QV1-HT0638-070500-191-412 HT0638 Homo sapiens cDNA clone IMAGE:2171981 3' similar to TR:G14089 Q14089   |
| 9016             | 21706           | 34857          | 6.83              | 1.0E-125                             | BE181640.1            | EST_HUMAN  | h52868.x1 NCI CGAP_KH1 Homo sapiens cDNA clone IMAGE:3944531 5'   |
| 9281             | 22035           | 35207          | 0.86              | 1.0E-125                             | A15656898.1           | EST_HUMAN  | HYPOTHETICAL PROTEIN ;  |
| 10350            | 22897           | 36215          | 0.53              | 1.0E-125                             | BE794576.1            | EST_HUMAN  | 601580345F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:3944531 5'  |
| 10381            | 23037           | 36253          | 1.08              | 1.0E-125                             | AB002298.1            | NT   | Homo sapiens L-REI gene, exon 5   |
| 10381            | 23278           | 36514          | 3.23              | 1.0E-125                             | AF04458.1             | NT   | Homo sapiens nandine receptor 1 (skeletal) (RYR1), mRNA   |
| 10758            | 23443           | 36688          | 1.81              | 1.0E-125                             | 11425570 NT           | NT   | Homo sapiens mRNA for KIAA06887 protein, partial cds  |
| 11081            | 23751           | 37026          | 3.94              | 1.0E-125                             | AB014567.1            | NT   | Homo sapiens mRNA for KIAA06887 protein, partial cds  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe Seq ID No: | Exon Seq ID No: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |             |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|-------------|
|                  |                 |                |                   |                                      |                       |                         | Top Hit  | Description |
| 11259            | 23921           | 37213          | 1.74              | 1.0E-125                             | 7669505               | NT                      | Hom sapiens myosin, heavy polypeptide 1, skeletal muscle, adult (MYH1), mRNA   |             |
| 11265            | 23927           | 37218          | 4.84              | 1.0E-125                             | AFO26029.1            | NT                      | Hom sapiens p65(A) binding protein II (PABP2) gene, complete cds   |             |
| 11377            | 23984           | 37284          | 1.82              | 1.0E-125                             | AW812689.1            | EST_HUMAN               | RC3-S10186-250200-018-c11 STD138 Homo sapiens cDNA   |             |
| 11483            | 24087           | 37307          | 3.58              | 1.0E-125                             | BE074287.1            | EST_HUMAN               | QV3-B10568-020200-075-q09 BT0569 Homo sapiens cDNA   |             |
| 11489            | 24087           | 37398          | 3.68              | 1.0E-125                             | BE074287.1            | EST_HUMAN               | QV3-B10568-020200-075-q09 BT0569 Homo sapiens cDNA   |             |
| 757              | 13529           | 26168          | 1.46              | 1.0E-126                             | 4758007               | NT                      | Hom sapiens gene for alpha 1-antichymotrypsin, exon 3  |             |
| 889              | 13867           | 26331          | 1.45              | 1.0E-128                             | X68735.1              | NT                      | Hom sapiens hypothetical protein FLJ20048 (FLJ20048), mRNA   |             |
| 2344             | 15067           | 27804          | 1.17              | 1.0E-128                             | 8923058               | NT                      | Hom sapiens hypothetical protein FLJ20048 (FLJ20048), mRNA   |             |
| 2344             | 15067           | 27805          | 1.17              | 1.0E-128                             | 8923058               | NT                      | Hom sapiens RAN binding protein 2 (RANBP2), mRNA   |             |
| 2605             | 15318           | 28059          | 1.48              | 1.0E-128                             | 6382078               | NT                      | Hom sapiens glutamate receptor, ionotropic, kainate 1 (GRIK1) mRNA   |             |
| (3069)           | 15835           | 28479          | 0.72              | 1.0E-128                             | 4604116               | NT                      | Hom sapiens pancreas (#837208) Homo sapiens cDNA clone IMAGE:5822420 5'  |             |
| 3070             | 15836           | 28480          | 7.54              | 1.0E-128                             | AA160708.1            | EST_HUMAN               | ZD7203.11 Strategic pancreas (#837208) Homo sapiens cDNA clone IMAGE:5822420 5'  |             |
| 3070             | 15836           | 28480          | 7.54              | 1.0E-128                             | AA160708.1            | EST_HUMAN               | ZD7203.11 Strategic pancreas b5 pseudogene   |             |
| 38220            | 16373           | 28014          | 1.09              | 1.0E-126                             | X53941.1              | NT                      | Hom sapiens DNA for liver cytochrome b5 receptor 6 (DR6), mRNA   |             |
| 3847             | 16400           | 28040          | 1.6               | 1.0E-126                             | 7857038               | NT                      | Hom sapiens DNA for melanocyte 2BHM Hom sapiens cDNA clone IMAGE:3928885 5'  |             |
| 4783             | 17515           | 30137          | 1.74              | 1.0E-126                             | N34078.1              | EST_HUMAN               | Y78208.1 Soares fetal liver MGC_9 Homo sapiens cDNA clone IMAGE:3928885 5'   |             |
| 5078             | 17797           | 30413          | 0.81              | 1.0E-126                             | BE743922.1            | EST_HUMAN               | 601677881F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:3928885 5'   |             |
| 5816             | 18412           | 31325          | 0.68              | 1.0E-126                             | T86898.1              | EST_HUMAN               | Y852512.s1 Soares fetal liver spleen 1NFSL Homo sapiens cDNA clone IMAGE:783444 5' similar to Nk2HF8_8M Homo sapiens cDNA clone IMAGE:783444 5' similar to total_fetus_Nk2HF8_8M Homo sapiens cDNA clone IMAGE:783444 5' |             |
| 6139             | 18917           | 31887          | 3.22              | 1.0E-126                             | AA460075.1            | EST_HUMAN               | TRG51145880 G1145880 TTTN ;  |             |
| 6197             | 18973           | 31949          | 4.2               | 1.0E-126                             | AB040858.1            | NT                      | Hom sapiens mRNA for KIAA1525 protein, partial cds   |             |
| 6197             | 18973           | 31950          | 4.2               | 1.0E-126                             | AB040858.1            | NT                      | Hom sapiens mRNA for KIAA1525 protein, partial cds   |             |
| 7399             | 20077           | 32157          | 1.02              | 1.0E-126                             | AF257737.1            | NT                      | Hom sapiens clifary dynelin heavy chain 9 (DYNAH9) mRNA, complete cds  |             |
| 7399             | 20077           | 32158          | 1.02              | 1.0E-126                             | AF257737.1            | NT                      | Hom sapiens clifary dynelin heavy chain 9 (DYNAH9) mRNA, complete cds  |             |
| 7602             | 20268           | 33375          | 0.62              | 1.0E-126                             | AU138463.1            | EST_HUMAN               | AU138463 PLACE:1 Homo sapiens cDNA clone IMAGE:1004325 5'  |             |
| 7655             | 20319           | 33428          | 0.68              | 1.0E-126                             | AB086483.1            | EST_HUMAN               | wf8601.x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:23530009 3' similar to SWAMP2_HUMAN Q14168 MAGUK P55 SUBFAMILY MEMBER 2 :  |             |
| 7778             | 20473           | 33596          | 0.76              | 1.0E-126                             | AB037715.1            | NT                      | Hom sapiens mRNA for KIAA1294 protein, partial cds   |             |
| 7778             | 20473           | 33597          | 0.76              | 1.0E-126                             | AB037715.1            | NT                      | Hom sapiens mRNA for KIAA1294 protein, variant 2.1   |             |
| 7887             | 20582           | 33711          | 2.55              | 1.0E-126                             | X16809.1              | NT                      | Human mRNA for ankyrin (variant 2.1)   |             |
| 8083             | 20777           | 33907          | 0.89              | 1.0E-126                             | AA483368.1            | EST_HUMAN               | ne74612.s1 NCL_CGAP_Emt1 Homo sapiens cDNA clone IMAGE:909883 similar to SW:TSG6_HUMAN   |             |
| 9695             | 22348           | 35539          | 0.87              | 1.0E-126                             | 4505424               | NT                      | P88068 TUMOR NECROSIS FACTOR-INDUCIBLE PROTEIN TSG-6 PRECURSOR : Homo sapiens neuro-oncological ventral antigen 1 (NOVA1), splice variant 1, mRNA  |             |

Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|--|
| 10683            | 23384           | 36624          | 1.27              | 1.0E-125                   | M93198.1              | NT                      | Human macrophage marmoset receptor (MRC1) gene, exon 5   |
| 10766            | 23450           | 36692          | 2.36              | 1.0E-125                   | BF683175.1            | EST_HUMAN               | 602138138F1_NIH_MGC_48 Homo sapiens cDNA clone IMAGE:4288240 5   |
| 11501            | 24102           | 37414          | 5.47              | 1.0E-125                   | BE261680.1            | EST_HUMAN               | 601140404F1_NIH_MGC_19 Homo sapiens cDNA clone IMAGE:3502128 6   |
| 12490            | 17797           | 30413          | 7.17              | 1.0E-125                   | BE743922.1            | EST_HUMAN               | 601577981F1_NIH_MGC_9 Homo sapiens cDNA clone IMAGE:3926885 5  |
| 168              | 12982           | 25622          | 4.63              | 1.0E-127                   | AB024587.1            | NT                      | Homo sapiens mRNA for cassein kinase epsilon, complete cds   |
| 168              | 12982           | 25623          | 4.63              | 1.0E-127                   | AB024587.1            | NT                      | Homo sapiens mRNA for cassein kinase epsilon, complete cds   |
| 169              | 12982           | 25622          | 4.71              | 1.0E-127                   | AB024587.1            | NT                      | Homo sapiens mRNA for cassein kinase epsilon, complete cds   |
| 169              | 12982           | 25623          | 4.71              | 1.0E-127                   | AB024587.1            | NT                      | Homo sapiens mRNA for cassein kinase epsilon, complete cds   |
| 287              | 13075           | 25718          | 3.54              | 1.0E-127                   | D87876.1              | NT                      | Homo sapiens DNA for amyloid precursor protein, complete cds   |
| 287              | 13075           | 25717          | 3.54              | 1.0E-127                   | D87875.1              | NT                      | Homo sapiens DNA for amyloid precursor protein, complete cds   |
| 881              | 13630           | 28301          | 2.03              | 1.0E-127                   | AF114488.1            | NT                      | Homo sapiens Intersectin short isoform (ISN) mRNA, complete cds  |
| 896              | 13684           | 28330          | 1.37              | 1.0E-127                   | U72621.2              | NT                      | Homo sapiens loc on transformation LO71 mRNA, complete cds   |
| 1683             | 14430           | 27126          | 1.08              | 1.0E-127                   | 4827053               | NT                      | Homo sapiens ubiquitin specific protease 8 (USP8) mRNA   |
| 2058             | 14790           | 27515          | 2.44              | 1.0E-127                   | 5803065               | NT                      | Homo sapiens leukocyte immunoglobulin-like receptor, subfamily A (with TM domain), member 1 (LILRA1) mRNA  |
| 2058             | 14780           | 27516          | 2.44              | 1.0E-127                   | 5803065               | NT                      | Homo sapiens leukocyte immunoglobulin-like receptor, subfamily A (with TM domain), member 1 (LILRA1) mRNA  |
| 2197             | 14928           | 27681          | 6.02              | 1.0E-127                   | 4506620               | NT                      | Homo sapiens ribosomal protein L28 (RPL28) mRNA  |
| 2341             | 16064           | 27891          | 2.73              | 1.0E-127                   | AF245505.1            | NT                      | Homo sapiens adican mRNA, complete cds   |
| 2614             | 15325           | 28088          | 3.04              | 1.0E-127                   | X12881.1              | NT                      | Human mRNA for cytokeratin 18  |
| 2626             | 15338           | 28081          | 1.1               | 1.0E-127                   | AA450131.1            | EST_HUMAN               | ZK426021.1 Scores_total_fetus_Nb2HF8_9W Homo sapiens cDNA clone IMAGE:7890388 5  |
| 2626             | 15338           | 28082          | 1.1               | 1.0E-127                   | AA450131.1            | EST_HUMAN               | ZK426021.1 Scores_total_fetus_Nb2HF8_9W Homo sapiens cDNA clone IMAGE:7890388 5  |
|                  |                 |                |                   |                            |                       |                         | sub803083.y1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2782584 5 similar to TR:Q15170 Q15170 TRANSCRIPTION FACTOR SH-RELATED PROTEIN repetitive element: |
| 3791             | 16543           | 29178          | 1.21              | 1.0E-127                   | AW161287.1            | EST_HUMAN               | Homo sapiens delayed rectifier potassium channel subunit IsK mRNA, complete cds  |
| 4096             | 16838           | 29485          | 0.7               | 1.0E-127                   | AF135188.1            | NT                      | Homo sapiens neuroblastoma amplified protein (LOC51594) mRNA   |
| 4227             | 16968           | 29592          | 23.74             | 1.0E-127                   | 7706239               | NT                      | Homo sapiens neuroblastoma amplified protein (LOC51594) mRNA   |
| 4227             | 16968           | 29593          | 23.74             | 1.0E-127                   | 7706239               | NT                      | Homo sapiens neuroblastoma amplified protein P450 retinoid metabolizing protein P450RAl-2 mRNA, complete cds   |
| 4462             | 17188           | 28824          | 0.94              | 1.0E-127                   | AF252287.1            | NT                      | Homo sapiens cytochrome P450 retinoid metabolizing protein P450RAl-2 mRNA, and translated products   |
| 4584             | 17289           | 28926          | 4.35              | 1.0E-127                   | 4506384               | NT                      | Homo sapiens RAD1 (S. pombe) homolog (RAD1) mRNA, and translated products  |
| 4590             | 17325           |                | 1.92              | 1.0E-127                   | AL163268.2            | NT                      | Homo sapiens chromosome 21 segment HS21C068  |
| 4625             | 17360           | 28993          | 1.26              | 1.0E-127                   | 6912639               | NT                      | Homo sapiens Ring1 and YY1 binding protein (RYBP) mRNA   |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 5620             | 18416           | 31329          | 1.37              | 1.0E-127                             | W03547.1              | EST_HUMAN               | z01er10.11 Scores melanocyte 2NIHm Homo sapiens cDNA clone IMAGE:291258 5' similar to SW-PIP6_RAT P106888 1-PHOSPHATIDYLINOSITOL-4,5-BISPHOSPHATE PHOSPHODIESTERASE DELTA 1; |
| 5650             | 18445           | 31359          | 2.4               | 1.0E-127                             | 4B2683                | NT                      | Homo sapiens neuronal cell adhesion molecule (NRCAM) mRNA  |
| 5713             | 18506           | 31428          | 4.25              | 1.0E-127                             | X85764.1              | NT                      | H.sapiens NOS2 gene, exon 6  |
| 6070             | 18849           | 31813          | 2.17              | 1.0E-127                             | X84060.1              | NT                      | H.sapiens TCF11 gene, exon 3-6   |
| 6229             | 19003           | 31979          | 5.28              | 1.0E-127                             | 4504778               | NT                      | Homo sapiens immunoglobulin superfamily, member 3 (IGSF3), mRNA  |
| 6560             | 19325           | 32332          | 0.89              | 1.0E-127                             | 11421595              | NT                      | Homo sapiens neitin (RELN) mRNA  |
| 6932             | 19444           | 32461          | 0.81              | 1.0E-127                             | 4B26977               | NT                      | Homo sapiens Pendred syndrome (PDS), mRNA  |
| 7684             | 20348           | 33461          | 1.65              | 1.0E-127                             | 11421914              | NT                      | Homo sapiens Pendred syndrome (PDS), mRNA  |
| 7684             | 20348           | 33462          | 1.65              | 1.0E-127                             | 11421914              | NT                      | Homo sapiens secretory pathway component Sec31B-1 mRNA, alternatively spliced, complete cds  |
| 7691             | 20355           | 33470          | 0.64              | 1.0E-127                             | AW086292.1            | EST_HUMAN               | QV3-BN0046-150300-121-h11 BN0046 Homo sapiens cDNA   |
| 8785             | 21477           | 34625          | 0.8               | 1.0E-127                             | 11427235              | NT                      | Homo sapiens Chediak-Higashi syndrome 1 (CHS1), mRNA   |
| 8785             | 21477           | 34626          | 0.8               | 1.0E-127                             | 11427235              | NT                      | Homo sapiens Chediak-Higashi syndrome 1 (CHS1), mRNA   |
| 9540             | 22193           | 35377          | 4.17              | 1.0E-127                             | AF274883.1            | NT                      | Homo sapiens secretory pathway component Sec31B-1 mRNA, alternatively spliced, complete cds  |
| 8540             | 22193           | 35378          | 4.17              | 1.0E-127                             | AF274883.1            | NT                      | Homo sapiens secretory pathway component Sec31B-1 mRNA, alternatively spliced, complete cds  |
| 9773             | 22424           | 35631          | 1                 | 1.0E-127                             | A1288932.1            | EST_HUMAN               | qmt84n9.x1 NCI_CGAP_Lu5 Homo sapiens cDNA clone IMAGE:1886449 3  |
| 10241            | 22889           | 38101          | 1.34              | 1.0E-127                             | 11427235              | NT                      | Homo sapiens Chediak-Higashi syndrome 1 (CHS1), mRNA   |
| 11107            | 23777           | 37050          | 7.88              | 1.0E-127                             | 11417339              | NT                      | Homo sapiens similar to heat shock 70kD protein 88 (monotubr-2) (H. sapiens) (LOC631184), mRNA   |
| 11107            | 23777           | 37051          | 7.88              | 1.0E-127                             | 11417339              | NT                      | Homo sapiens similar to heat shock 70kD protein 88 (monotubr-2) (H. sapiens) (LOC631184), mRNA   |
| 11627            | 24224           | 37648          | 3.25              | 1.0E-127                             | B0895415.1            | EST_HUMAN               | 601434784F1 NIH MGC_72 Homo sapiens cDNA clone IMAGE:3918817 6'  |
| 11627            | 24224           | 37547          | 3.25              | 1.0E-127                             | B0895415.1            | EST_HUMAN               | 601434784F1 NIH MGC_72 Homo sapiens cDNA clone IMAGE:3918917 6'  |
| 12244            | 12882           | 25622          | 2.25              | 1.0E-127                             | AB024597.1            | NT                      | Homo sapiens mRNA for casein kinase I epsilon, complete cds  |
| 12244            | 12882           | 25623          | 2.26              | 1.0E-127                             | AB024597.1            | NT                      | Homo sapiens mRNA for casein kinase I epsilon, complete cds  |
| 12444            | 24814           | 31048          | 2.88              | 1.0E-127                             | AB011389.1            | NT                      | Homo sapiens gene for AF-8, complete cds   |
| 447              | 13233           | 25873          | 3.04              | 1.0E-128                             | BE385617.1            | EST_HUMAN               | 601278127F1 NIH MGC_20 Homo sapiens cDNA clone IMAGE:3818822 5'  |
| 2063             | 14785           | 27520          | 5.5               | 1.0E-128                             | U02523.1              | NT                      | Human FAU1P pseudogene, trinucleotide repeat regions   |
| 2063             | 14795           | 27521          | 5.5               | 1.0E-128                             | U02523.1              | NT                      | Human FAU1P pseudogene, trinucleotide repeat regions   |
| 22016            | 14834           | 27872          | 8.76              | 1.0E-128                             | 4506718               | NT                      | Homo sapiens ribosomal protein S2 (RPS2) mRNA  |
| 2446             | 15165           |                | 1.1               | 1.0E-128                             | 11437455              | NT                      | Homo sapiens chromatin-specific transcription elongation factor, 140 kDa subunit (FACTP140), mRNA  |
| 3389             | 16148           | 28802          | 1.08              | 1.0E-128                             | AB033073.1            | NT                      | Homo sapiens KIAA1247 protein, partial cds   |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 4616             | 17351           | 28985          | 6.14              | 1.0E-128                             | 114288673             | NT                      | Homo sapiens prospero-related homeobox 1 (PROX1), mRNA   |
| 6458             | 18257           | 31147          | 0.7               | 1.0E-128                             | X6939.1               | NT                      | H sapiens gene for inter-alpha-trypsin inhibitor heavy chain H1, exon 12   |
| 6886             | 18672           | 31613          | 0.65              | 1.0E-128                             | BE747881.1            | EST_HUMAN               | 601580468F1 NIH MGC_9 Homo sapiens cDNA clone IMAGE:3828057 5'   |
| 6886             | 18672           | 31614          | 0.65              | 1.0E-128                             | BE747881.1            | EST_HUMAN               | 601580468F1 NIH MGC_9 Homo sapiens cDNA clone IMAGE:3828057 6'   |
| 6324             | 18084           | 32082          | 2.58              | 1.0E-128                             | 11428865              | NT                      | Homo sapiens phosphodiesterase 1C, calmodulin-dependent (70kD) (PDE1C), mRNA   |
| 6831             | 19493           | 32516          | 6.9               | 1.0E-128                             | BF24245.1             | EST_HUMAN               | 7q85b10.x1 NCI CGAP_L124 Homo sapiens cDNA clone IMAGE:3805784 5'  |
| 7327             | 20010           | 33089          | 0.62              | 1.0E-128                             | BE514105.1            | EST_HUMAN               | 601503846F1 NIH MGC_71 Homo sapiens cDNA clone IMAGE:3805784 5'  |
| 7692             | 20358           | 33471          | 0.67              | 1.0E-128                             | 11546823              | NT                      | Homo sapiens putative ABC transporter (WHITE2), mRNA   |
| 8446             | 21138           | 34276          | 0.73              | 1.0E-128                             | A8007823.1            | NT                      | Homo sapiens mRNA for KIAA0454 protein, partial cds  |
| 8446             | 21138           | 34277          | 0.73              | 1.0E-128                             | A8007823.1            | NT                      | Homo sapiens mRNA for KIAA0454 protein, partial cds  |
| 10037            | 22685           | 35903          | 1.63              | 1.0E-128                             | AA89198.1             | EST_HUMAN               | ns04e11.r1 NCI CGAP_EWI Homo sapiens cDNA clone IMAGE:1182820 similar to TR:G861338 G861338                              |
| 10608            | 23302           | 38541          | 3.52              | 1.0E-128                             | 11425254              | NT                      | CHROMOSOME SEGREGATION GENE HOMOLOG CAS.   |
| 10618            | 23311           | 386550         | 3.21              | 1.0E-128                             | AA892698.1            | EST_HUMAN               | Homo sapiens mRNA for TRABID protein (TRABID gene)   |
| 10689            | 23390           | 39628          | 1.35              | 1.0E-128                             | AJ252050.1            | NT                      | omt8h08.s1 NCI CGAP_GCA Homo sapiens cDNA clone IMAGE:1652383 3' similar to gb:354941 CYCLIN                             |
| 10761            | 23446           | 39689          | 1.4               | 1.0E-128                             | BE384475.1            | EST_HUMAN               | EST387360 IMAGE resequences, MAGC Homo sapiens cDNA  |
| 12117            | 24610           |                | 7.02              | 1.0E-128                             | AW955290.1            | EST_HUMAN               | EST387360 IMAGE resequences, MAGC Homo sapiens cDNA  |
| 1118             | 13189           | 25839          | 1.33              | 1.0E-129                             | S37722.1              | NT                      | insulin-like growth factor binding protein-2 [Human, placenta, genomic, 1019 nt, segment 2 of 4]                         |
| 404              | 13189           | 25839          | 1.19              | 1.0E-129                             | S37722.1              | NT                      | insulin-like growth factor binding protein-2 [Human, placenta, genomic, 1019 nt, segment 2 of 4]                         |
| 1713             | 14456           | 27154          | 2.73              | 1.0E-129                             | AL098880.1            | NT                      | Novel human mRNA containing Zinc finger C2H2 type domains  |
| 1717             | 14460           | 27158          | 1.57              | 1.0E-129                             | AF240786.1            | NT                      | Homo sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1) genes, complete cds |
| 1717             | 14460           | 27159          | 1.57              | 1.0E-129                             | AF240786.1            | NT                      | Homo sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1) genes, complete cds |
| 1838             | 14576           | 27289          | 2.78              | 1.0E-129                             | Q14585                | SWISSPROT               | ZINC FINGER PROTEIN HZF-10   |
| 3125             | 15890           | 28531          | 1.21              | 1.0E-129                             | Q14585                | SWISSPROT               | ZINC FINGER PROTEIN HZF-10   |
| 3125             | 15890           | 28532          | 1.21              | 1.0E-129                             | Q14585                | SWISSPROT               | ZINC FINGER PROTEIN HZF-10   |
| 3125             | 15890           | 28533          | 1.21              | 1.0E-129                             | Q14585                | SWISSPROT               | Homo sapiens mRNA for KIAA1459 protein, partial cds  |
| 4143             | 16835           | 29516          | 1.94              | 1.0E-129                             | A8040862.1            | NT                      | CMY5 Human cardiac muscle expression library Homo sapiens cDNA clone 4151635 similar to CMY5                             |
| 4247             | 16988           | 28611          | 2.28              | 1.0E-129                             | AW755254.1            | EST_HUMAN               | Cardiomyopathy associated gene 5   |
| 4247             | 16988           | 28612          | 2.26              | 1.0E-129                             | AW755254.1            | EST_HUMAN               | CMY5 Human cardiac muscle expression library Homo sapiens cDNA clone 4151635 similar to CMY5                             |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe Seq ID No: | Exon Seq ID No: | ORF Seq ID No: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |                  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|------------------|
|                  |                 |                |                   |                                      |                       |                         | Top Hit   | Descriptor       |
| 6000             | 18781           | 31742          | 3.73              | 1.0E-129                             | AJ000345.1            | NT                      | Homo sapiens KVLQT1 gene  | IMAGE:3853688 5  |
| 6816             | 19477           | 32499          | 0.56              | 1.0E-129                             | BE869883.1            | EST_HUMAN               | 601449740F1 NIH_MGC_65 Homo sapiens cDNA clone IMAGE:3853688 5.   |                  |
| 6816             | 19477           | 32500          | 0.56              | 1.0E-129                             | BE869883.1            | EST_HUMAN               | 601449740F1 NIH_MGC_65 Homo sapiens cDNA clone IMAGE:3853688 5.   |                  |
| 7027             | 19719           | 32776          | 4.15              | 1.0E-129                             | AJ000345.1            | NT                      | Homo sapiens KVLQT1 gene  |                  |
| 7090             | 19779           | 32844          | 3.83              | 1.0E-129                             | 11420890              | NT                      | Homo sapiens similar to ribosomal protein S26 (H. sapiens) (LOC63584), mRNA   |                  |
| 7428             | 20105           | 33191          | 2.49              | 1.0E-129                             | AF041058.1            | NT                      | Homo sapiens WSCR4 gene, exons 3 and 4  |                  |
| 7428             | 20105           | 33192          | 2.49              | 1.0E-129                             | AF041058.1            | NT                      | Homo sapiens mRNA for KIAA0354 protein, partial cds   |                  |
| 8217             | 20911           | 32911          | 3.94              | 1.0E-129                             | AB014534.1            | NT                      | Homo sapiens solute carrier family 21 (organic anion transporter), member 9 (SLC21A9), mRNA   |                  |
| 8879             | 22627           | 35835          | 0.87              | 1.0E-129                             | 11497282              | NT                      | Homo sapiens solute carrier family 21 (organic anion transporter), member 9 (SLC21A9), mRNA   |                  |
| 8879             | 22627           | 35836          | 0.97              | 1.0E-129                             | 11497282              | NT                      | Homo sapiens brain S11 Homo sapiens cDNA clone IMAGE:1047689 5  |                  |
| 10523            | 23169           | 36396          | 0.57              | 1.0E-129                             | AA682200.1            | EST_HUMAN               | 6017207.1 Soares_NHMPU_S1 Homo sapiens cDNA clone IMAGE:1047689 5   |                  |
| 11186            | 23951           | 37137          | 4                 | 1.0E-129                             | AA625526.1            | EST_HUMAN               | 6017207.1 Soares_NHMPU_S1 Homo sapiens cDNA clone IMAGE:1047689 5   |                  |
| 11268            | 19770           | 32844          | 6.57              | 1.0E-129                             | 11420890              | NT                      | Homo sapiens similar to ribosomal protein S26 (H. sapiens) (LOC63584), mRNA   |                  |
| 11615            | 24213           | 37637          | 1.38              | 1.0E-129                             | AU143115.1            | EST_HUMAN               | AU143115 Y79AA11 Homo sapiens cDNA clone Y79AA11001410 5  |                  |
| 11616            | 24213           | 37538          | 1.38              | 1.0E-129                             | AU143115.1            | EST_HUMAN               | AU143115 Y79AA11 Homo sapiens cDNA clone Y79AA11001410 5  |                  |
| 12104            | 24801           |                | 1.79              | 1.0E-129                             | HS8155.1              | EST_HUMAN               | Y48305.1 Soares fetal liver spleen 1NF1S Homo sapiens cDNA clone IMAGE:189112 5 similar to SP-B48150 B48150 HP-25-H-INTERNATION-RELATED PROTEIN - TAMILAS ASIATICUS=ASIAN ; DKFZp762K171_1 762 (synonym: fml2) Homo sapiens cDNA clone DKFZp762K171 5 |                  |
| 12483            | 24842           |                | 2.68              | 1.0E-129                             | AL120739.1            | EST_HUMAN               | DKFZp762K171_1 762 (synonym: fml2) Homo sapiens cDNA clone DKFZp762K171 5   |                  |
| 74               | 12901           | 25538          | 1.3               | 1.0E-130                             | 7705530               | NT                      | Homo sapiens hypothetical protein (HSPC242), mRNA   |                  |
| 1147             | 13902           | 26564          | 0.69              | 1.0E-130                             | AB037835.1            | NT                      | Homo sapiens mRNA for KIAA1414 protein, partial cds   | IMAGE:33463988 5 |
| 1661             | 14407           | 27098          | 11.38             | 1.0E-130                             | BE275192.1            | EST_HUMAN               | 601121885F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:33463988 5   |                  |
| 1661             | 14407           | 27099          | 11.38             | 1.0E-130                             | BE275192.1            | EST_HUMAN               | 601121885F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:33463988 5   |                  |
| 1976             | 14712           |                | 3.08              | 1.0E-130                             | X040892.1             | NT                      | Homo sapiens RET finger protein-like 1 antisense transcript, partial  | IMAGE:38854688 5 |
| 2773             | 15478           |                | 5.37              | 1.0E-130                             | AJ010230.1            | EST_HUMAN               | 601121885F1 NIH_MGC_53 Homo sapiens cDNA clone IMAGE:38854688 5   |                  |
| 2881             | 16648           | 28290          | 1.17              | 1.0E-130                             | BE584219.1            | EST_HUMAN               | 601121885F1 NIH_MGC_53 Homo sapiens cDNA clone IMAGE:38854688 5   |                  |
| 2881             | 16648           | 28291          | 1.17              | 1.0E-130                             | BE584219.1            | EST_HUMAN               | 601121885F1 NIH_MGC_53 Homo sapiens cDNA clone IMAGE:38854688 5   |                  |
| 3565             | 16320           | 28968          | 1.09              | 1.0E-130                             | AF240688.1            | NT                      | Homo sapiens cDNA clone IMAGE:38854688 5  |                  |
| 3750             | 15648           | 26290          | 5.36              | 1.0E-130                             | BE584219.1            | EST_HUMAN               | 601121885F1 NIH_MGC_53 Homo sapiens cDNA clone IMAGE:38854688 5   |                  |
| 3750             | 15648           | 28291          | 5.36              | 1.0E-130                             | BE584219.1            | EST_HUMAN               | 601121885F1 NIH_MGC_53 Homo sapiens cDNA clone IMAGE:38854688 5   |                  |
| 3919             | 16665           | 28305          | 1.92              | 1.0E-130                             | AW603580.1            | NT                      | Homo sapiens T-cell receptor (V alpha 22.1, J alpha 22.1, C alpha 1) mRNA   |                  |
| 4053             | 16788           | 29428          | 1.5               | 1.0E-130                             | M9770.1               | EST_HUMAN               | CMA-CN045-180200-511-412 CN045 Homo sapiens cDNA  |                  |
| 4501             | 17237           | 29859          | 6.78              | 1.0E-130                             | AW843983.1            | EST_HUMAN               | RCC-C10318-201198-031-#11 CT0318 Homo sapiens cDNA  |                  |
| 5038             | 17757           | 30371          | 1.07              | 1.0E-130                             | AW383298.1            | EST_HUMAN               | RCC-C10318-201198-031-#11 CT0318 Homo sapiens cDNA  |                  |
| 5038             | 17757           | 30372          | 1.07              | 1.0E-130                             | AW363298.1            | EST_HUMAN               | RCC-C10318-201198-031-#11 CT0318 Homo sapiens cDNA  |                  |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF-SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|---|
| 6629             | 19391           | 32405          | 0.55              | 1.0E-130                             | X57825.1              | NT                      | Human germline immunoglobulin lambda light chain pseudogene (VII.1)  |   |
| 6723             | 19557           | 32587          | 0.81              | 1.0E-130                             | AW843875.1            | EST_HUMAN               | CN0-CN0045-170/200-225-9/3 CN0045 Homo sapiens cDNA  |   |
| 6723             | 19557           | 32588          | 0.81              | 1.0E-130                             | AW843875.1            | EST_HUMAN               | CN0-CN0045-170/200-225-9/3 CN0046 Homo sapiens cDNA  |   |
| 6736             | 19570           | 32602          | 0.76              | 1.0E-130                             | 11425446              | NT                      | Homo sapiens estrogen-responsive B box protein (EBBP), mRNA  |   |
| 7154             | 18841           | 32810          | 2.62              | 1.0E-130                             | 11416777              | NT                      | Homo sapiens solute carrier family 6 (neurotransmitter transporter, L-proline), member 7 (SLC6A7), mRNA                              |   |
| 8582             | 21274           |                | 0.45              | 1.0E-130                             | AFF08551.1            | NT                      | Homo sapiens aurora-related kinase 1 (ARK1), mRNA, complete cds  |   |
| 8718             | 21410           | 34553          | -                 | 2.39                                 | 1.0E-130              | AW856242.1              | EST_HUMAN  | EST1388312 MAGE resequences, MAGD Homo sapiens cDNA |
| 9114             | 21802           | 34867          | 1.84              | 1.0E-130                             | AB037758.1            | NT                      | Homo sapiens mRNA for KIAA1335 protein, partial cds  |   |
| 9833             | 22484           |                | 1.25              | 1.0E-130                             | AW103454.1            | EST_HUMAN               | x0386d8Jx1 NC1_CGAP_Ov23 Homo sapiens cDNA clone IMAGE-2585874 3'  |   |
| 10483            | 23108           | 38340          | 0.51              | 1.0E-130                             | 11432889              | NT                      | Homo sapiens contactin 6 (CNTN6), mRNA   |   |
| 10483            | 23109           | 38341          | 0.51              | 1.0E-130                             | 11432889              | NT                      | Homo sapiens contactin 6 (CNTN6), mRNA   |   |
| 11242            | 23804           | 37184          | 1.72              | 1.0E-130                             | 8923197               | NT                      | Homo sapiens hypothetical protein FLJ20208 (FLJ20208), mRNA  |   |
| 11242            | 23804           | 37185          | 1.72              | 1.0E-130                             | 8923197               | NT                      | Homo sapiens hypothetical protein FLJ20208 (FLJ20208), mRNA  |   |
| 11703            | 24288           | 37824          | 2.67              | 1.0E-130                             | 4504142               | NT                      | Homo sapiens glutamate receptor, metabotropic 5 (GRM5) mRNA  |   |
| 12759            | 15478           |                | 1.56              | 1.0E-130                             | AJ010230.1            | NT                      | Homo sapiens RET finger protein-like 1 antisense transcript, partial   |   |
| 4                | 12832           | 25445          | 1.9               | 0.0E+00                              | AA228128.1            | EST_HUMAN               | G222811 ALPHA 1 CHAIN OF TYPE XI COLLAGEN; Zf58cd4.11 Scores_NIHMPU_S1 Homo sapiens cDNA clone IMAGE-687590 5' similar to TR.G222811 |   |
| 4                | 12832           | 25446          | 1.9               | 0.0E+00                              | AA228128.1            | EST_HUMAN               | G222811 ALPHA 1 CHAIN OF TYPE XI COLLAGEN;   |   |
| 7                | 12834           | 25449          | 1.02              | 0.0E+00                              | 4885136               | NT                      | Homo sapiens checkpoint suppressor 1 (CHEST1), mRNA  |   |
| 14               | 12841           | 25454          | 0.72              | 0.0E+00                              | 8923246               | NT                      | Homo sapiens hypothetical protein FLJ20371 (FLJ20371), mRNA  |   |
| 14               | 12841           | 25455          | 0.72              | 0.0E+00                              | 8923249               | NT                      | Homo sapiens hypothetical protein FLJ20371 (FLJ20371), mRNA  |   |
| 20               | 12848           | 25462          | 6.7               | 0.0E+00                              | D83327.1              | NT                      | Homo sapiens DCRR1 mRNA, partial cds   |   |
| 20               | 12848           | 25463          | 6.7               | 0.0E+00                              | D83327.1              | NT                      | Homo sapiens DCRR1 mRNA, partial cds   |   |
| 25               | 12853           | 25468          | 17.04             | 0.0E+00                              | AF141348.1            | NT                      | Homo sapiens Cdc42 effector protein 2 (CEP2), mRNA   |   |
| 39               | 12851           | 25478          | 1.19              | 0.0E+00                              | 5802397               | NT                      | Homo sapiens heparin cofactor II (HCf2) gene, exons 1 through 5  |   |
| 39               | 12853           | 25481          | 0.82              | 0.0E+00                              | M68890.1              | NT                      | Homo sapiens RNA-binding protein S1, seins-itch domain (RNPS1), mRNA   |   |
| 39               | 12867           | 25488          | 4.22              | 0.0E+00                              | 6857825               | NT                      | Homo sapiens mRNA for multidrug resistance protein 3 (ABCC3)   |   |
| 56               | 12884           | 25512          | 0.76              | 0.0E+00                              | Y17151.2              | NT                      | Homo sapiens mRNA for multidrug resistance protein 3 (ABCC3)   |   |
| 56               | 12884           | 25513          | 0.76              | 0.0E+00                              | Y17151.2              | NT                      | Homo sapiens mRNA for multidrug resistance protein 3 (ABCC3)   |   |
| 56               | 12885           | 26514          | 3.04              | 0.0E+00                              | D78804.1              | EST_HUMAN               | HUM516108B Human placenta polyA+ (T Fujihara) Homo sapiens cDNA clone GEN-516H08 5'  |   |
| 56               | 12885           | 25515          | 3.04              | 0.0E+00                              | D78804.1              | EST_HUMAN               | HUM516108B Human placenta polyA+ (T Fujihara) Homo sapiens cDNA clone GEN-516H08 5'  |   |
| 57               | 12886           | 25516          | 5.76              | 0.0E+00                              | L16558.1              | NT                      | Human ribosomal protein L7 (RPL7) mRNA, complete cds   |   |

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Table 4

Single Exon Probes Expressed In Brain

| Probe Seq ID No: | Exon Seq ID No: | ORF Seq ID No: | Expression Signal. | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor                        |
|------------------|-----------------|----------------|--------------------|--------------------------------------|-----------------------|--|---|
| 59               | 128888          | 25519          | 12.55              | 0.0E+00 AW0688534.1                  | EST_HUMAN             | cr48e07_x1 Jia bone marrow stroma  | Homo sapiens cDNA clone HBMSIC_cr48e07_3' |
| 59               | 128888          | 25520          | 12.55              | 0.0E+00 AW0688534.1                  | EST_HUMAN             | cr48e07_x1 Jia bone marrow stroma  | Homo sapiens cDNA clone HBMSIC_cr48e07_3' |
| 63               | 12891           | 25524          | 1.5                | 0.0E+00 M68678.1                     | NT                    | Human von Willebrand factor pseudogene corresponding to exons 23 through 34  |   |
| 65               | 12893           |                | 0.91               | 0.0E+00 M68678.1                     | NT                    | Human von Willebrand factor pseudogene corresponding to exons 23 through 34  |   |
| 73               | 12890           | 25536          | 10.36              | 0.0E+00                              | 4758977 NT            | Homo sapiens protein tyrosine phosphatase, non-receptor type substrate 1 (PTPN1) mRNA  |   |
| 73               | 12890           | 25537          | 10.36              | 0.0E+00                              | 4758977 NT            | Homo sapiens protein tyrosine phosphatase, non-receptor type substrate 1 (PTPN1) mRNA  |   |
| 76               | 12890           | 25536          | 10.18              | 0.0E+00                              | 4758977 NT            | Homo sapiens protein tyrosine phosphatase, non-receptor type substrate 1 (PTPN1) mRNA  |   |
| 76               | 12890           | 25537          | 10.18              | 0.0E+00                              | 4758977 NT            | Homo sapiens protein tyrosine phosphatase, non-receptor type substrate 1 (PTPN1) mRNA  |   |
| 80               | 12908           | 25544          | 0.78               | 0.0E+00                              | 4501850 NT            | Homo sapiens amilloid beta binding protein 1 (amine oxidase (copper-containing)) (ABP1), nuclear gene encoding mitochondrial protein, mRNA     |   |
| 81               | 12907           |                | 15.25              | 0.0E+00                              | 4504444 NT            | Homo sapiens heterogeneous nuclear ribonucleoprotein A1 (hnRPA1) mRNA  |   |
| 90               | 12916           | 25553          | 17.68              | 0.0E+00                              | 5016088 NT            | Homo sapiens actin, beta (ACTB) mRNA   |   |
| 83               | 12919           | 25556          | 23.26              | 0.0E+00 U89277.1                     | NT                    | Human polyhomeotic 1 homolog (HPH1) mRNA, partial cds  |   |
| 89               | 12925           | 25562          | 3.51               | 0.0E+00 A114743.1                    | EST_HUMAN             | HA1347 Human fetal liver cDNA library/Homo sapiens cDNA  |   |
| 100              | 12926           | 25563          | 1.72               | 0.0E+00 AB037784.1                   | NT                    | Homo sapiens mRNA for KIAA1363 protein, partial cds  |   |
| 105              | 12928           | 25566          | 1.33               | 0.0E+00 X871213.1                    | NT                    | H.sapiens ncrl gene (exon 2)   |   |
| 113              | 12895           | 25572          | 0.89               | 0.0E+00 A1623701.1                   | EST_HUMAN             | Is3805_x1 NCI_CGAP_U4 Homo sapiens cDNA clone IMAGE-2230833 3' similar to TR-Q88551 Q88551   |   |
| 114              | 12935           | 25572          | 1.47               | 0.0E+00 A1623701.1                   | EST_HUMAN             | MITOCHONDRIAL TRANSCRIPTION TERMINATION FACTOR PRECURSOR ;   |   |
| 115              | 15513           | 25573          | 1.48               | 0.0E+00 N38040.1                     | EST_HUMAN             | Y011089.1 Soares melanocyte 2NISHM Homo sapiens cDNA clone IMAGE-2700117 5'  |   |
| 115              | 15513           | 25574          | 1.48               | 0.0E+00 N38040.1                     | EST_HUMAN             | Y011089.1 Soares melanocyte 2NISHM Homo sapiens cDNA clone IMAGE-2700117 5'  |   |
| 128              | 12943           | 25598          | 4.38               | 0.0E+00                              | 4505938 NT            | Homo sapiens polymerase (RNA) II (DNA directed) polypeptide A (22kD) (POLR2A) mRNA   |   |
| 128              | 12943           | 25597          | 4.38               | 0.0E+00                              | 4505938 NT            | Homo sapiens polymerase (RNA) II (DNA directed) polypeptide A (22kD) (POLR2A) mRNA   |   |
| 136              | 12850           | 25593          | 1.29               | 0.0E+00 T58945.1                     | EST_HUMAN             | ye83g04.12 Stratagene fetal spleen #837205 Homo sapiens cDNA clone IMAGE-688310 5'   |   |
| 136              | 12850           | 25594          | 1.29               | 0.0E+00 T58946.1                     | EST_HUMAN             | ye83g04.12 Stratagene fetal spleen #837205 Homo sapiens cDNA clone IMAGE-688310 5'   |   |
| 149              | 12884           |                | 8.88               | 0.0E+00                              | 4504444 NT            | Homo sapiens heterogeneous nuclear ribonucleoprotein A1 (hnRPA1) mRNA  |   |
| 153              | 12868           | 25609          | 2.1                | 0.0E+00 BF068881.1                   | EST_HUMAN             | 601460375F1 NIH_MGC_88 Homo sapiens cDNA clone IMAGE-3863803 5'  |   |
| 155              | 12870           |                | 25.83              | 0.0E+00                              | 4504444 NT            | Homo sapiens heterogeneous nuclear ribonucleoprotein A1 (hnRPA1) mRNA  |   |
| 158              | 12873           | 25612          | 1                  | 0.0E+00 AF111168.2                   | NT                    | Homo sapiens serine palmitoyl transferase, subunit II gene, complete cds; and unknown genes  |   |
| 160              | 12875           | 25613          | 1.15               | 0.0E+00 BE285973.1                   | EST_HUMAN             | 601174270F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE-3523864 5'  |   |
| 161              | 12875           | 25613          | 0.88               | 0.0E+00 BE285973.1                   | EST_HUMAN             | 601174270F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE-3523864 5'  |   |
| 162              | 12976           | 25614          | 5.4                | 0.0E+00 W73973.1                     | EST_HUMAN             | ze16265.1 Soares fetal heart N6TH19W Homo sapiens cDNA clone IMAGE-345201 5' similar to qb:X162682_cds1 ZINC FINGER PROTEIN CLONE 647 (HUMAN); |   |

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## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|--|--------------------|
| 163              | 12877           | 25615          | 0.81              | 0.0E+00 BE162832.1               | EST_HUMAN             | QV3-HT0457-140200-088-d04 HT0457 Homo sapiens cDNA   |                    |
| 163              | 12877           | 25616          | 0.81              | 0.0E+00 BE162832.1               | EST_HUMAN             | QV3-HT0457-140200-088-d04 HT0457 Homo sapiens cDNA   |                    |
| 164              | 12078           | 25617          | 1.42              | 0.0E+00 AF244088.1               | NT                    | Homo sapiens zinc finger protein mRNA, complete cds  |                    |
| 167              | 12881           | 25620          | 29.73             | 0.0E+00 AL163202.2               | NT                    | Homo sapiens chromosome 21 segment HS21C002  |                    |
| 167              | 12881           | 25621          | 29.73             | 0.0E+00 AL163202.2               | NT                    | Homo sapiens chromosome 21 segment HS21C002  |                    |
| 178              | 12988           | 25627          | 5.95              | 0.0E+00 BE018970.1               | EST_HUMAN             | bb24e12y1 NIH_MGC_14 Homo sapiens cDNA clone IMAGE:2863854 5' similar to WP:Y57A10A.2                |                    |
| 178              | 12988           | 25628          | 5.95              | 0.0E+00 BE018970.1               | EST_HUMAN             | bb24e12y1 NIH_MGC_14 Homo sapiens cDNA clone IMAGE:2863854 5' similar to WP:Y57A10A.2                |                    |
| 181              | 12983           | 25631          | 3.05              | 0.0E+00 AB018327.1               | NT                    | Homo sapiens mRNA for KIAA0784 protein, partial cds  |                    |
| 181              | 12983           | 25632          | 3.05              | 0.0E+00 AB018327.1               | NT                    | Homo sapiens mRNA for KIAA0784 protein, partial cds  |                    |
| 189              | 13002           | 25643          | 67.77             | 0.0E+00 D50659.1                 | NT                    | Human gamma-cytoplasmic actin (ACTGFB) pseudogene  |                    |
| 194              | 13007           | 25848          | 3.74              | 0.0E+00 AF273045.1               | NT                    | Homo sapiens CTC1 tumor antigen set4-3 mRNA, complete cds  |                    |
| 194              | 13007           | 25849          | 3.74              | 0.0E+00 AF273045.1               | NT                    | Homo sapiens CTC1 tumor antigen set4-3 mRNA, complete cds  |                    |
| 198              | 13009           | 25851          | 4.81              | 0.0E+00 AF167174.1               | NT                    | Homo sapiens chromosome X MSL3-2 protein mRNA, complete cds  |                    |
| 198              | 13009           | 25852          | 4.81              | 0.0E+00 AF167174.1               | NT                    | Homo sapiens chromosome X MSL3-2 protein mRNA, complete cds  |                    |
| 205              | 15537           | 25653          | 9.28              | 0.0E+00 AI587308.1               | EST_HUMAN             | Iq0f08_xt NCI_CGAP_U3 Homo sapiens cDNA clone IMAGE:2207847 3' similar to g:J03181 PROFILIN (HUMAN); |                    |
| 205              | 15537           | 25659          | 9.28              | 0.0E+00 AI587308.1               | EST_HUMAN             | Iq0f08_xt NCI_CGAP_U3 Homo sapiens cDNA clone IMAGE:2207847 3' similar to g:J03181 PROFILIN (HUMAN); |                    |
| 207              | 13019           | 25681          | 3.08              | 0.0E+00 AF185658.1               | NT                    | Homo sapiens DNA mismatch repair protein (MLH3) gene, complete cds                                   |                    |
| 209              | 13021           |                | 23.37             | 0.0E+00 45016832                 | NT                    | Homo sapiens ribosomal protein L31 (RP-L31) mRNA   |                    |
| 210              | 13022           |                | 4.72              | 0.0E+00 AF132000.1               | NT                    | Homo sapiens TADA1 protein mRNA, complete cds  |                    |
| 214              | 13028           | 25684          | 9.19              | 0.0E+00 AB018284.1               | NT                    | Homo sapiens mRNA for KIAA0721 protein, partial cds  |                    |
| 216              | 13028           | 25684          | 8.34              | 0.0E+00 AB018284.1               | NT                    | Homo sapiens mRNA for KIAA0721 protein, partial cds  |                    |
| 216              | 13027           | 25685          | 3.5               | 0.0E+00 6878444                  | NT                    | Mus musculus testis-specific protein, Y-encoded-like (Tspy), mRNA                                    |                    |
| 229              | 13041           | 25678          | 1.23              | 0.0E+00 AB018301.1               | NT                    | Homo sapiens mRNA for KIAA0758 protein, partial cds  |                    |
| 229              | 13041           | 25679          | 1.23              | 0.0E+00 AB018301.1               | NT                    | Homo sapiens mRNA for KIAA0758 protein, partial cds  |                    |
| 231              | 13042           | 25682          | 3.97              | 0.0E+00 6453805                  | NT                    | Homo sapiens NS1-associated protein 1 (NSAP1) mRNA   |                    |
| 233              | 13044           |                | 6.94              | 0.0E+00 AL163201.2               | NT                    | Homo sapiens chromosome 21 segment HS21C001  |                    |
| 240              | 13049           | 25688          | 3.85              | 0.0E+00 AF231919.1               | NT                    | Homo sapiens chromosome 21 unknown mRNA  |                    |
| 242              | 13051           | 25691          | 1.71              | 0.0E+00 X89772.1                 | NT                    | H.sapiens mRNA for Interferon alpha/beta receptor (long form)  |                    |
| 250              | 13059           |                | 9.14              | 0.0E+00 AF231919.1               | NT                    | Homo sapiens chromosome 21 unknown mRNA  |                    |
| 263              | 13071           | 25710          | 1.68              | 0.0E+00 4507500                  | NT                    | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TIAM1) mRNA                                  |                    |

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Table 4

## Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 283              | 13071           | 25711          | 1.68              | 0.0E+00                              | 4507500               | NT                      | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TIAM1) mRNA   |
| 285              | 13073           | 25713          | 3.07              | 0.0E+00                              | 7706028               | NT                      | Homo sapiens hypothetical protein (LOC51250). mRNA  |
| 276              | 13083           |                | 1.19              | 0.0E+00                              | D83327.1              | NT                      | Homo sapiens DCPR1 mRNA, partial cds  |
| 277              | 13084           | 25726          | 3.28              | 0.0E+00                              | D83327.1              | NT                      | Homo sapiens DCPR1 mRNA, partial cds  |
| 277              | 13085           | 25727          | 3.28              | 0.0E+00                              | D83327.1              | NT                      | Homo sapiens DCPR1 mRNA, partial cds  |
| 287              | 13083           | 25734          | 0.78              | 0.0E+00                              | AW845283.1            | EST_HUMAN               | IL2-CT0031-1B1189-020-B03 CT0031 Homo sapiens cDNA  |
| 287              | 13083           | 25735          | 0.65              | 0.0E+00                              | 4557029               | NT                      | Homo sapiens potassium inward-rectifying channel, subfamily J, member 15 (KCNJ15) mRNA                              |
| 297              | 13103           | 25744          | 4.97              | 0.0E+00                              | AB028942.1            | NT                      | Homo sapiens mRNA for KIAA1019 protein, partial cds   |
| 298              | 13104           | 25745          | 4.63              | 0.0E+00                              | AB028942.1            | NT                      | Homo sapiens mRNA for KIAA1019 protein, partial cds   |
| 289              | 15540           |                | 4.23              | 0.0E+00                              | 4506728               | NT                      | Homo sapiens ribosomal protein S5 (RPS5) mRNA   |
| 300              | 13105           |                | 3.78              | 0.0E+00                              | AA48002.1             | EST_HUMAN               | Zf18c36.1 Soenes_NH11fpu_S1 Homo sapiens cDNA clone IMAGE:753864.6  |
| 301              | 13108           | 25748          | 18.83             | 0.0E+00                              | 4507152               | NT                      | Homo sapiens SON DNA binding protein (SON) mRNA   |
| 302              | 13108           | 25746          | 16.53             | 0.0E+00                              | 4507152               | NT                      | Homo sapiens SON DNA binding protein (SON) mRNA   |
| 306              | 13110           | 25760          | 2.33              | 0.0E+00                              | AF114488.1            | NT                      | Homo sapiens Intersectin short isoform (ITSN) mRNA, complete cds  |
| 319              | 13122           | 25769          | 4.97              | 0.0E+00                              | 7657213               | NT                      | Homo sapiens homocysteate upregulated neu tumor-associated kinase (HUNK) mRNA                                       |
| 320              | 13122           | 25769          | 6.23              | 0.0E+00                              | 7657213               | NT                      | Homo sapiens homocysteate upregulated neu tumor-associated kinase (HUNK) mRNA                                       |
| 335              | 13136           | 25771          | 2.68              | 0.0E+00                              | 5174574               | NT                      | Homo sapiens myeloid/lymphoid or mixed-lineage leukemia (mlle) (Drosophila) homolog; translocated to 4 (MLLT4) mRNA |
| 338              | 13139           | 25775          | 1.71              | 0.0E+00                              | 4827057               | NT                      | Homo sapiens X-box binding protein 1 (XBP1) mRNA  |
| 341              | 13142           | 25780          | 1.45              | 0.0E+00                              | U71600.1              | NT                      | Human zinc finger protein Zfp311 (ZFP311) mRNA, partial cds   |
| 348              | 13148           | 25784          | 2.42              | 0.0E+00                              | AF231918.1            | NT                      | Homo sapiens chromosome 21 unknown mRNA   |
| 346              | 13146           | 25785          | 2.42              | 0.0E+00                              | AF231918.1            | NT                      | Homo sapiens chromosome 21 unknown mRNA   |
| 347              | 15541           | 25788          | 3.84              | 0.0E+00                              | AF231919.1            | NT                      | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TIAM1) mRNA   |
| 349              | 13148           | 25788          | 2.33              | 0.0E+00                              | 4507500               | NT                      | Homo sapiens Gα-binding protein transcription factor, alpha subunit (GDPD) (GABPA), mRNA                            |
| 352              | 13151           | 25792          | 0.84              | 0.0E+00                              | 4503854               | NT                      | Human mRNA for KIAA0184 gene, partial cds   |
| 353              | 13162           | 25793          | 4.1               | 0.0E+00                              | D83006.1              | NT                      | Human mRNA for KIAA0184 gene, partial cds   |
| 354              | 13152           | 25793          | 1.9               | 0.0E+00                              | D83006.1              | NT                      | Human mRNA for KIAA0184 gene, partial cds   |
| 356              | 13154           | 25795          | 1.89              | 0.0E+00                              | 4507500               | NT                      | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TIAM1) mRNA   |
| 367              | 13163           | 25806          | 1.07              | 0.0E+00                              | AU134983.1            | EST_HUMAN               | AU134983 PLACE1 Homo sapiens cDNA clone PLACE1000889.5  |
| 378              | 13203           | 25849          | 8.31              | 0.0E+00                              | AB028942.1            | NT                      | Homo sapiens mRNA for KIAA1019 protein, partial cds   |
| 379              | 13204           | 25850          | 1.54              | 0.0E+00                              | AJ363014.1            | EST_HUMAN               | q91h05xr NCLCGAP_Bm25 Homo sapiens cDNA clone IMAGE:2018457.3 similar to q91h05xr                                   |
| 383              | 13170           | 25813          | 1.83              | 0.0E+00                              | AW754180.1            | EST_HUMAN               | PHOSPHORIBOSYLMALINE-GLYCINE LIGASE (HUMAN); RC2-CT0320-300100-016-a09 CT0320 Homo sapiens cDNA                     |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|--|
| 386              | 13172           | 25816          | 1.58              | 0.0E+00                          | 4503680               | NT                      | Homo sapiens IgG Fc binding protein (FC(GAMMA)BP) mRNA                   |
| 387              | 13173           | 25817          | 2.49              | 0.0E+00                          | 4503680               | NT                      | Homo sapiens IgG Fc binding protein (FC(GAMMA)BP) mRNA                   |
| 387              | 13173           | 25818          | 2.48              | 0.0E+00                          | 4503680               | NT                      | Homo sapiens IgG Fc binding protein (FC(GAMMA)BP) mRNA                   |
| 388              | 13174           | 25819          | 1.17              | 0.0E+00                          | 4503680               | NT                      | Homo sapiens IgG Fc binding protein (FC(GAMMA)BP) mRNA                   |
| 389              | 13175           | 25820          | 1.39              | 0.0E+00                          | 4503680               | NT                      | Homo sapiens IgG Fc binding protein (FC(GAMMA)BP) mRNA                   |
| 389              | 13175           | 25821          | 1.39              | 0.0E+00                          | 4503680               | NT                      | Homo sapiens IgG Fc binding protein (FC(GAMMA)BP) mRNA                   |
| 390              | 13176           | 25822          | 2.77              | 0.0E+00                          | 4503680               | NT                      | Homo sapiens IgG Fc binding protein (FC(GAMMA)BP) mRNA                   |
| 391              | 13177           | 25823          | 0.84              | 0.0E+00                          | 4503680               | NT                      | H. sapiens gene for RNA pol II largest subunit, exons 23-29              |
| 392              | 13178           | 25824          | 1.35              | 0.0E+00                          | X74870.1              | NT                      | H. sapiens gene for RNA pol II largest subunit, exons 23-29              |
| 392              | 13178           | 25825          | 1.35              | 0.0E+00                          | X74870.1              | NT                      | H. sapiens gene for RNA pol II largest subunit, exons 23-29              |
| 393              | 13178           | 25824          | 1.07              | 0.0E+00                          | X74870.1              | NT                      | H. sapiens gene for RNA pol II largest subunit, exons 23-29              |
| 393              | 13178           | 25825          | 1.07              | 0.0E+00                          | X74870.1              | NT                      | H. sapiens gene for RNA pol II largest subunit, exons 23-29              |
| 397              | 13182           |                | 28.13             | 0.0E+00                          | 4506688               | NT                      | Human ribosomal protein L19 (RPL19) mRNA                                 |
| 411              | 12822           | 25435          | 1.5               | 0.0E+00                          | R17795.1              | EST_HUMAN               | 950802.11 Socres Infant brain 1N1B Homo sapiens cDNA clone IMAGE:31682.5 |
| 419              | 13205           | 25851          | 1.31              | 0.0E+00                          | 4503914               | NT                      | Homo sapiens phosphatidylglycanamide formyltransferase (GART) mRNA       |
| 420              | 13206           |                | 3.18              | 0.0E+00                          | 4506728               | NT                      | Homo sapiens ribosomal protein S5 (RPS5) mRNA                            |
| 421              | 13207           | 25852          | 3.83              | 0.0E+00                          | AB028842.1            | NT                      | Homo sapiens mRNA for KIAA1019 protein, partial cds                      |
| 422              | 13208           | 25853          | 5.45              | 0.0E+00                          | 4507152               | NT                      | Homo sapiens SCN DNA binding protein (SON) mRNA                          |
| 422              | 13208           | 25854          | 5.45              | 0.0E+00                          | 4507152               | NT                      | Homo sapiens truncated SON protein (Sen) mRNA, complete cds              |
| 423              | 13209           | 25855          | 4.02              | 0.0E+00                          | AF183607.1            | NT                      | Mus musculus interferon gamma receptor 1 (IFNGR1) mRNA                   |
| 423              | 13210           | 25885          | 1.89              | 0.0E+00                          | 4557878               | NT                      | Homo sapiens interferon gamma receptor 1 (IFNGR1) mRNA                   |
| 438              | 13224           |                | 2.01              | 0.0E+00                          | A324262.1             | EST_HUMAN               | EST27054 Cerebellum II Homo sapiens cDNA 5' end IMAGE:3352348.5          |
| 439              | 13225           |                | 0.97              | 0.0E+00                          | BE254447.1            | EST_HUMAN               | 801111620F1 NIH MGC_18 Homo sapiens cDNA clone IMAGE:3352348.5           |
| 455              | 13241           | 25897          | 3.15              | 0.0E+00                          | 4504532               | NT                      | Homo sapiens 5-hydroxytryptamine (serotonin) receptor 1B (HTR1B) mRNA    |
| 461              | 13246           | 25898          | 3.15              | 0.0E+00                          | 4504532               | NT                      | Homo sapiens 5-hydroxytryptamine (serotonin) receptor 1B (HTR1B) mRNA    |
| 461              | 13246           | 25899          | 1.23              | 0.0E+00                          | 4557887               | NT                      | Homo sapiens keratin 18 (KRT18) mRNA                                     |
| 471              | 13257           | 25895          | 2.64              | 0.0E+00                          | AL163246.2            | NT                      | Homo sapiens chromosome 21 segment HS21C046                              |
| 472              | 13258           | 25896          | 9.28              | 0.0E+00                          | AL163246.2            | NT                      | Homo sapiens chromosome 21 segment HS21C046                              |
| 472              | 13258           | 25897          | 9.28              | 0.0E+00                          | AL163246.2            | NT                      | Homo sapiens chromosome 21 segment HS21C046                              |
| 481              | 13268           | 25902          | 3.46              | 0.0E+00                          | AB033035.1            | NT                      | Alu132689 NT2RP4 Homo sapiens cDNA clone NT2RP4-4000837.5                |
| 483              | 13268           | 25904          | 1.97              | 0.0E+00                          | AL132898.1            | EST_HUMAN               | Alu132689 NT2RP4 Homo sapiens cDNA clone IMAGE:3615758.5                 |
| 491              | 13276           | 25910          | 2.68              | 0.0E+00                          | BE385144.1            | EST_HUMAN               | 601274951F1 NIH MGC_20 Homo sapiens cDNA clone IMAGE:3615758.5           |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLASTE Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|-------------------------------------|-----------------------|-------------------------|--|
| 482 15543        | 25911           |                | 1.11              | 0.0E+00                             | AW0388825.1           | EST_HUMAN               | PMID00865-130400-002-d08 DT00865 Homo sapiens cDNA Novel human gene mapping to chromosome 1              |
| 494 13278        | 25913           |                | 1.33              | 0.0E+00                             | AL117223.1            | NT                      | Homo sapiens PC326 protein (PC326), mRNA   |
| 495 13279        | 25914           |                | 1.27              | 0.0E+00                             | 8922955               | NT                      | Homo sapiens HS21C010  |
| 498 13283        |                 |                | 0.77              | 0.0E+00                             | BF373403.1            | EST_HUMAN               | 112-F10159-070800-12D-F07 F10159 Homo sapiens cDNA   |
| 508 13280        | 25924           |                | 5.37              | 0.0E+00                             | AL163210.2            | NT                      | Homo sapiens chromosome 21 segment HS21C010  |
| 513 15544        | 26928           |                | 1.28              | 0.0E+00                             | BE081527.1            | EST_HUMAN               | QV2-BT0635-160400-142-h05 BT0635 Homo sapiens cDNA clone IMAGE-3888998 5                                 |
| 618 13302        | 25934           |                | 1.14              | 0.0E+00                             | BF028005.1            | EST_HUMAN               | 6011764858f1 NIH MGC-53 Homo sapiens cDNA clone IMAGE-3888998 5  |
| 624 13308        | 25941           |                | 1.68              | 0.0E+00                             | AB040909.1            | NT                      | Homo sapiens transcription elongation factor B (SII), poly peptide 1-like (TCEB1L), mRNA                 |
| 527 13311        | 25944           |                | 27.88             | 0.0E+00                             | 8905030               | NT                      | Homo sapiens guanine nucleotide binding protein (G protein), alpha 11 (Gq class) (GNA11), mRNA           |
| 628 13312        | 25945           |                | 4.33              | 0.0E+00                             | 4504026               | NT                      | Homo sapiens guanine nucleotide binding protein (G protein), alpha 11 (Gq class) (GNA11), mRNA           |
| 628 13312        | 25946           |                | 4.33              | 0.0E+00                             | 4504026               | NT                      | Homo sapiens arfillin (LOC54443), mRNA   |
| 530 13314        | 25948           |                | 0.97              | 0.0E+00                             | 8923351               | NT                      | Homo sapiens arfillin (LOC54443), mRNA   |
| 630 13314        | 25949           |                | 0.97              | 0.0E+00                             | 8923351               | NT                      | Homo sapiens X-linked arthritochitotriosidase protein gene (EDA), exon 2 and flanking repeat regions     |
| 635 13318        |                 |                | 5.82              | 0.0E+00                             | AF003528.1            | NT                      | UH-B11-ecb-H-04-0-U1_s1 NCL_CGAP_Sub3 Homo sapiens cDNA clone IMAGE-2713851 3'                           |
| 643 13320        | 25958           |                | 1.89              | 0.0E+00                             | AW135324.1            | EST_HUMAN               | Homo sapiens RGH11 gene, retrovirus-like element   |
| 553 13336        |                 |                | 8                 | 0.0E+00                             | D10083.1              | NT                      | Homo sapiens Ubiquinol-cytochrome c reductase, Rieske iron-sulfur polypeptide 1 (UQCRCFS1), nuclear gene |
| 572 13353        | 25982           |                | 2.83              | 0.0E+00                             | 5174742               | NT                      | Homo sapiens mitochondrial protein, mRNA   |
| 585 13385        |                 |                | 7                 | 0.0E+00                             | JO40886.1             | NT                      | Human apolipoprotein A-I (ApoA-I) gene, exon 1   |
| 588 13368        | 25996           |                | 1.83              | 0.0E+00                             | BF104898.1            | EST_HUMAN               | 601822627f1 NIH_MGC_751 Homo sapiens cDNA clone IMAGE-4045447 5  |
| 590 13370        | 25998           |                | 0.88              | 0.0E+00                             | 8922951               | NT                      | Homo sapiens hypothetical protein FLJ20701 (FLJ20701), mRNA  |
| 590 13370        | 25999           |                | 0.88              | 0.0E+00                             | 8922951               | NT                      | Homo sapiens hypothetical protein FLJ20701 (FLJ20701), mRNA  |
| 695 13373        | 26002           |                | 0.78              | 0.0E+00                             | 4501854               | NT                      | Homo sapiens acetyl-Coenzyme A carboxylase beta (ACACB), mRNA  |
| 600 13378        | 26008           |                | 1.15              | 0.0E+00                             | AF221712.1            | NT                      | Homo sapiens Smad- and Olf-interacting zinc finger protein mRNA, partial cds                             |
| 600 13378        | 26009           |                | 1.15              | 0.0E+00                             | AF221712.1            | NT                      | Homo sapiens Smad- and Olf-interacting zinc finger protein mRNA, partial cds                             |
| 609 13387        | 26018           |                | 3.18              | 0.0E+00                             | AF149773.1            | NT                      | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA                                      |
| 612 13380        | 26021           |                | 1.2               | 0.0E+00                             | 8906918               | NT                      | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA                                      |
| 613 13391        | 26022           |                | 3.83              | 0.0E+00                             | 8906918               | NT                      | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA                                      |
| 613 13391        | 26023           |                | 3.83              | 0.0E+00                             | 8906918               | NT                      | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA                                      |
| 614 13392        | 26024           |                | 0.92              | 0.0E+00                             | 8906918               | NT                      | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA                                      |
| 614 13392        | 26025           |                | 0.92              | 0.0E+00                             | 8906918               | NT                      | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA                                      |
| 620 13398        | 26034           |                | 1.35              | 0.0E+00                             | AA399486.1            | EST_HUMAN               | z60507.1 Scars testis NHT Homo sapiens cDNA clone IMAGE-278732 5   |
| 624 13403        | 26038           |                | 10.1              | 0.0E+00                             | D11078.1              | NT                      | Homo sapiens RGH2 gene, retrovirus-like element  |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|---|--------------------|
| 628              | 13407           | 26041          | 0.78              | 0.0E+00 W78811.1                     | EST_HUMAN             | zh51b04_r1 Scores_fetal_liver_spineen_INF1S_S1 Homo sapiens cDNA clone IMAGE:415567 5' similar to gb:A21187 ALPHA-2-MACROGLOBULIN PRECURSOR (HUMAN) |                    |
| 628              | 13407           | 26042          | 0.78              | 0.0E+00 W78811.1                     | EST_HUMAN             | zh51b04_r1 Scores_fetal_liver_spineen_INF1S_S1 Homo sapiens cDNA clone IMAGE:415567 5' similar to gb:A21187 ALPHA-2-MACROGLOBULIN PRECURSOR (HUMAN) |                    |
| 631              | 13410           |                | 4.89              | 0.0E+00                              | 488528 NT             | Homo sapiens novel SH2-containing protein 3 (NSP3) mRNA   |                    |
| 638              | 13417           | 26054          | 2.88              | 0.0E+00                              | 6006003 NT            | Homo sapiens glutamate receptor, ionotropic, N-methyl D-aspartate 2B (GRIN2B) mRNA  |                    |
| 640              | 13419           | 26057          | 1.17              | 0.0E+00                              | 6031624 NT            | Homo sapiens CCAAT-box-binding transcription factor (CBF2) mRNA   |                    |
| 643              | 13422           | 26061          | 2.53              | 0.0E+00 U05235.1                     | NT                    | Human neutral amino acid transporter (ASC1) gene, exon 8  |                    |
| 647              | 13423           | 26064          | 1.07              | 0.0E+00 AF108389.1                   | NT                    | Homo sapiens sodium/calcium exchanger isoform Na/Ca3 (NCX1) mRNA, complete cds  |                    |
| 647              | 13423           | 26066          | 1.07              | 0.0E+00 AF108389.1                   | NT                    | Homo sapiens sodium/calcium exchanger isoform Na/Ca3 (NCX1) mRNA, complete cds  |                    |
| 653              | 13431           | 26070          | 4.88              | 0.0E+00                              | 4826947 NT            | Homo sapiens protein kinase, X-linked (PRKX) mRNA   |                    |
| 653              | 13431           | 26071          | 4.98              | 0.0E+00                              | 4826947 NT            | Homo sapiens protein kinase, X-linked (PRKX) mRNA   |                    |
| 659              | 16547           |                | 1.16              | 0.0E+00 X57147.1                     | NT                    | Human endogenous retrovirus pHE-1 (ERV9)  |                    |
| 657              | 13443           | 26084          | 10.4              | 0.0E+00                              | 4504424 NT            | Homo sapiens high-mobility group (nonhistone chromosomal) protein 1 (HMGI) mRNA   |                    |
| 672              | 13448           | 26088          | 4.49              | 0.0E+00 AB028012.1                   | NT                    | Homo sapiens mRNA for KIAA1089 protein, partial cds   |                    |
| 681              | 13466           | 26101          | 2.43              | 0.0E+00                              | 7857488 NT            | Homo sapiens similar to rat integral membrane glycoprotein POM121 (POM121L1), mRNA  |                    |
| 683              | 13468           | 26115          | 9.24              | 0.0E+00 AA614537.1                   | EST_HUMAN             | np_48401_s1_NCI_CGAP_B11.1 Homo sapiens cDNA clone IMAGE:1128633 3' similar to gb:X57352  |                    |
| 698              | 13471           | 26118          | 4.34              | 0.0E+00 M60875.1                     | NT                    | INTERFERON-INDUCIBLE PROTEIN 1-3U (HUMAN)   |                    |
| 698              | 13471           | 26120          | 4.34              | 0.0E+00 M60875.1                     | NT                    | Human von Willebrand factor gene, exons 23 through 34   |                    |
| 708              | 13481           | 26129          | 1.71              | 0.0E+00                              | 6032182 NT            | Human von Willebrand factor gene, exons 23 through 34   |                    |
| 712              | 13486           | 26135          | 4.95              | 0.0E+00 AF284750.1                   | NT                    | Homo sapiens TNF receptor-associated factor 1 (TRAF1) mRNA  |                    |
| 712              | 13486           | 26136          | 4.85              | 0.0E+00 AF284750.1                   | NT                    | Homo sapiens ALR-like protein mRNA, partial cds   |                    |
| 714              | 13488           | 26139          | 12.29             | 0.0E+00                              | 11545800 NT           | Homo sapiens hypothetical protein FLJ21634 (FLJ21634) mRNA  |                    |
| 718              | 13493           | 26146          | 2.12              | 0.0E+00 BE241577.1                   | EST_HUMAN             | TCAA/PID0779 Pediatric acute myelogenous leukemia cell (FAB M1) Baylor-HGSC project=TCAA Homo sapiens cDNA clone TCAA/P0779                         |                    |
| 739              | 13512           | 26170          | 1.97              | 0.0E+00 AF226890.2                   | NT                    | Homo sapiens MHC class I antigen (HLA-G) mRNA, HLA-G1 allele, complete cds  |                    |
| 739              | 13512           | 26171          | 1.07              | 0.0E+00 AF226890.2                   | NT                    | Homo sapiens MHC class I antigen (HLA-G) mRNA, HLA-G1 allele, complete cds  |                    |
| 740              | 13513           | 26172          | 2.41              | 0.0E+00 AF170492.1                   | NT                    | Homo sapiens chloride channel CLC4 (CLC4) mRNA, complete cds  |                    |
| 743              | 13516           | 26175          | 1.07              | 0.0E+00 J03784.1                     | NT                    | Human, plasmidogen activation inhibitor-1 gene, exons 2 to 9  |                    |
| 743              | 13516           | 26176          | 1.07              | 0.0E+00 J03784.1                     | NT                    | Human, plasmidogen activation inhibitor-1 gene, exons 2 to 9  |                    |
| 746              | 13519           | 26177          | 1.38              | 0.0E+00                              | 6912749 NT            | Homo sapiens zinc finger protein 212 (ZNF212), mRNA   |                    |
| 748              | 15561           | 26178          | 1.88              | 0.0E+00 D09612.1                     | NT                    | Homo sapiens mRNA for repressor protein, partial cds  |                    |
| 749              | 13521           | 26180          | 3.01              | 0.0E+00 BE889735.1                   | EST_HUMAN             | 60144564/T1 NIH_MGC_65 Homo sapiens cDNA clone IMAGE:3849803 5'   |                    |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 752              | 13524           | 26183          | 3.51              | 0.0E+00                              | R48915.1              | EST_HUMAN               | y69g08.r1 Soares breast 2NBHBst Homo sapiens cDNA clone IMAGE:1540465'                  |
| 753              | 13525           | 26184          | 2.4               | 0.0E+00                              | 5032088               | NT                      | Homo sapiens splicing factor 3a, subunit 1, 120kD (SF3A1), mRNA                         |
| 761              | 13533           | 26192          | 2.07              | 0.0E+00                              | AB011369.1            | NT                      | Homo sapiens gene for AF-6, complete cds  |
| 764              | 13537           | 26198          | 2.34              | 0.0E+00                              | 7681965               | NT                      | Homo sapiens KIAA0170 gene product (KIAA0170), mRNA                                     |
| 775              | 13547           | 26208          | 1.18              | 0.0E+00                              | DB0006.1              | NT                      | Human mRNA for KIAA0184 gene, partial cds   |
| 775              | 13547           | 26209          | 1.18              | 0.0E+00                              | DB0006.1              | NT                      | Human mRNA for KIAA0184 gene, partial cds   |
| 780              | 13552           | 26213          | 2.13              | 0.0E+00                              | X89772.1              | NT                      | H.sapiens mRNA for Interferon alpha/beta receptor (long form)                           |
| 784              | 13556           | 26217          | 5.97              | 0.0E+00                              | AB0220717.1           | NT                      | Homo sapiens mRNA for KIAA0810 protein, partial cds                                     |
| 784              | 13556           | 26218          | 5.97              | 0.0E+00                              | AB0220717.1           | NT                      | Homo sapiens mRNA for KIAA0810 protein, partial cds                                     |
| 788              | 13560           | 26222          | 9.88              | 0.0E+00                              | 5174478               | NT                      | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TIAM1) mRNA                     |
| 789              | 13561           | 26224          | 11.63             | 0.0E+00                              | 4507500               | NT                      | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TIAM1) mRNA                     |
| 805              | 13577           | 26242          | 1.96              | 0.0E+00                              | 7657213               | NT                      | Homo sapiens hormonally upregulated neu tumor-associated kinase (HUNK), mRNA            |
| 808              | 13578           | 26243          | 4.28              | 0.0E+00                              | 7657213               | NT                      | Homo sapiens hormonally upregulated neu tumor-associated kinase (HUNK), mRNA            |
| 808              | 13580           | 26245          | 2.81              | 0.0E+00                              | 4557686               | NT                      | Homo sapiens potassium voltage-gated channel, Isk-related family, member 1 (KCNE1) mRNA |
| 814              | 13585           | 26251          | 1.39              | 0.0E+00                              | AF-088820.1           | NT                      | Homo sapiens serine-threonine protein kinase (MNKB1) mRNA, complete cds                 |
| 814              | 13585           | 26252          | 1.39              | 0.0E+00                              | AF-088820.1           | NT                      | Homo sapiens serine-threonine protein kinase (MNKB1) mRNA, complete cds                 |
| 819              | 13590           | 26257          | 1.58              | 0.0E+00                              | 45036354              | NT                      | Homo sapiens GA-binding protein transcription factor, alpha subunit (GABPA), mRNA       |
| 823              | 13593           | 26262          | 2.09              | 0.0E+00                              | 4507500               | NT                      | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TIAM1) mRNA                     |
| 823              | 13593           | 26263          | 2.09              | 0.0E+00                              | 4507500               | NT                      | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TIAM1) mRNA                     |
| 830              | 13600           | 26274          | 1.32              | 0.0E+00                              | AF027153.1            | NT                      | Homo sapiens sodium/mg-hastid codetransporter (SLC5A3) gene, complete cds               |
| 834              | 13604           | 26274          | 4.82              | 0.0E+00                              | AB0228042.1           | NT                      | Homo sapiens mRNA for KIAA1019 protein, partial cds                                     |
| 834              | 13604           | 26276          | 4.82              | 0.0E+00                              | AB0228042.1           | NT                      | Homo sapiens mRNA for KIAA1019 protein, partial cds                                     |
| 835              | 13605           | 26276          | 9.56              | 0.0E+00                              | 450752                | NT                      | Homo sapiens SON DNA binding protein (SON) mRNA   |
| 836              | 13606           | 26277          | 4.34              | 0.0E+00                              | AB0228042.1           | NT                      | Homo sapiens mRNA for KIAA1019 protein, partial cds                                     |
| 837              | 13607           | 26278          | 0.8               | 0.0E+00                              | 4506728               | NT                      | Homo sapiens ribosomal protein S5 (RPS5) mRNA   |
| 841              | 13611           | 26281          | 2.2               | 0.0E+00                              | AB0220717.1           | NT                      | Homo sapiens mRNA for KIAA0810 protein, partial cds                                     |
| 841              | 13611           | 26282          | 2.2               | 0.0E+00                              | AB0220717.1           | NT                      | Homo sapiens mRNA for KIAA0810 protein, partial cds                                     |
| 842              | 13612           | 26283          | 2.46              | 0.0E+00                              | A4532272.1            | EST_HUMAN               | rj8ed07.51 NCI CGAP_Pt10 Homo sapiens cDNA clone IMAGE:987453                           |
| 842              | 13612           | 26284          | 2.45              | 0.0E+00                              | A4532272.1            | EST_HUMAN               | rj8ed07.51 NCI CGAP_Pt10 Homo sapiens cDNA clone IMAGE:987453                           |
| 843              | 13613           |                | 9.44              | 0.0E+00                              | BIG77694.1            | EST_HUMAN               | 6020285579F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE:4249915.5                         |
| 847              | 13617           | 26285          | 1.94              | 0.0E+00                              | 7657213               | NT                      | Homo sapiens hormonally upregulated neu tumor-associated kinase (HUNK), mRNA            |
| 847              | 13617           | 26286          | 1.84              | 0.0E+00                              | 7657213               | NT                      | Homo sapiens hormonally upregulated neu tumor-associated kinase (HUNK), mRNA            |
| 848              | 13618           | 26287          | 3.31              | 0.0E+00                              | 7657213               | NT                      | Homo sapiens hormonally upregulated neu tumor-associated kinase (HUNK), mRNA            |
| 848              | 13618           | 26288          | 3.31              | 0.0E+00                              | 7657213               | NT                      | Homo sapiens hormonally upregulated neu tumor-associated kinase (HUNK), mRNA            |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|--|
| 871              | 13840           | 263111         | 0.91              | 0.0E+00                    | AL_163203.2           | NT                      | Human sapiens chromosome 21 segment HS21 C003  |
| 878              | 13847           | 263116         | 2.57              | 0.0E+00                    | BE0983892.1           | EST_HUMAN               | QW-B10703-280400-211-911 BT0703 Human sapiens cDNA   |
| 878              | 13847           | 263117         | 2.57              | 0.0E+00                    | BE0983892.1           | EST_HUMAN               | QW-B10703-280400-211-911 BT0703 Human sapiens cDNA   |
| 888              | 13857           | 263126         | 6.48              | 0.0E+00                    | AL_163203.2           | NT                      | Human sapiens chromosome 21 segment HS21 C003  |
| 898              | 13868           |                | 4.98              | 0.0E+00                    | 4504958               | NT                      | Human sapiens laminin receptor 1 (670D, ribosomal protein SA) (LAMR1), mRNA                    |
| 900              | 13868           |                | 8.49              | 0.0E+00                    | 4504958               | NT                      | Human sapiens laminin receptor 1 (670D, ribosomal protein SA) (LAMR1), mRNA                    |
| 901              | 13868           | 263132         | 1.21              | 0.0E+00                    | AF089747.1            | NT                      | Human sapiens alpha-1-antichymotrypsin precursor, mRNA, partial cds                            |
| 902              | 13869           | 263133         | 1.78              | 0.0E+00                    | [28101.1              | NT                      | Human sapiens kallistatin (P14) gene, exons 1-4, complete cds                                  |
| 905              | 13872           | 263136         | 1.05              | 0.0E+00                    | Z20686.1              | NT                      | Human sapiens of cardiac alpha-myosin heavy chain gene   |
| 905              | 13872           | 263137         | 1.05              | 0.0E+00                    | Z20686.1              | NT                      | Human sapiens of cardiac alpha-myosin heavy chain gene   |
| 923              | 13863           | 263156         | 2.98              | 0.0E+00                    | AB023211.1            | NT                      | Human sapiens mRNA for KIAA0364 protein, partial cds   |
| 923              | 13863           | 263157         | 2.88              | 0.0E+00                    | AB023211.1            | NT                      | Human sapiens mRNA for KIAA0364 protein, partial cds   |
| 931              | 13698           | 263602         | 1.19              | 0.0E+00                    | M37190.1              | NT                      | Human ras inhibitor mRNA, 3' end   |
| 932              | 13699           | 263603         | 9.85              | 0.0E+00                    | M37190.1              | NT                      | Human ras inhibitor mRNA, 3' end   |
| 933              | 13700           | 263604         | 0.9               | 0.0E+00                    | M37190.1              | NT                      | Human ras inhibitor mRNA, 3' end   |
| 934              | 13701           | 263605         | 2.18              | 0.0E+00                    | 4507430               | NT                      | Human sapiens thyrotrophic embryonic factor (TEF), mRNA  |
| 894              | 13701           | 263606         | 2.18              | 0.0E+00                    | 4507430               | NT                      | Human sapiens thyrotrophic embryonic factor (TEF), mRNA  |
| 942              | 15556           | 263173         | 3.38              | 0.0E+00                    | A001948.1             | EST_HUMAN               | os8e03.s1 NC1 CGAP GC3 Human sapiens cDNA clone IMAGE-1613404.3'                               |
| 942              | 15556           | 263174         | 3.38              | 0.0E+00                    | A001948.1             | EST_HUMAN               | os8e03.s1 NC1 CGAP GC3 Human sapiens cDNA clone IMAGE-1613404.3'                               |
| 943              | 13709           | 263175         | 9.49              | 0.0E+00                    | 7657268               | NT                      | Human sapiens KIAA0329 protein Msc2 interacting nuclear target (MINT) homolog (KIAA0329), mRNA |
| 954              | 13719           | 263395         | 3.18              | 0.0E+00                    | AB030568.1            | NT                      | Human sapiens mRNA for PSF24, complete cds   |
| 962              | 13727           | 263191         | 1.11              | 0.0E+00                    | BF368974.1            | EST_HUMAN               | PM2-GN0014-050900-001-02 GN0014 Human sapiens cDNA   |
| 962              | 13727           | 263192         | 1.11              | 0.0E+00                    | BF368974.1            | EST_HUMAN               | PM2-GN0014-050900-001-02 GN0014 Human sapiens cDNA   |
| 962              | 13727           | 263193         | 1.11              | 0.0E+00                    | BF368974.1            | EST_HUMAN               | PM2-GN0014-050900-001-02 GN0014 Human sapiens cDNA   |
| 963              | 13728           | 263194         | 1.69              | 0.0E+00                    | X522207.1             | NT                      | Human sapiens partial o-fgr gene, exons 2 and 3  |
| 963              | 13728           | 263195         | 1.69              | 0.0E+00                    | X522207.1             | NT                      | Human sapiens partial o-fgr gene, exons 2 and 3  |
| 972              | 13737           | 28402          | 2.03              | 0.0E+00                    | 4757059               | NT                      | Human sapiens chromodomain protein, Y chromosome-like (CDYL), mRNA                             |
| 884              | 13748           | 28410          | 1.68              | 0.0E+00                    | U836688.1             | NT                      | Human beta-tubulin (TUB4q) gene, complete cds  |
| 885              | 13749           | 28411          | 50.9              | 0.0E+00                    | U836688.1             | NT                      | Human beta-tubulin (TUB4q) gene, complete cds  |
| 886              | 13749           | 28411          | 25.17             | 0.0E+00                    | U836688.1             | NT                      | Human beta-tubulin (TUB4q) gene, complete cds  |
| 889              | 13752           |                | 5.62              | 0.0E+00                    | AF198490.1            | NT                      | Human sapiens Sq22.1 region and MTG8 (CBFA2T1) gene, partial cds                               |
| 890              | 13752           |                | 8.84              | 0.0E+00                    | AF198490.1            | NT                      | Human sapiens Sq22.1 region and MTG8 (CBFA2T1) gene, partial cds                               |
| 993              | 13755           | 28416          | 1.17              | 0.0E+00                    | AF111170.3            | NT                      | Human sapiens 14q32 lagged2 gene, complete cds; and unknown gene                               |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No.   | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|--------------------------------------|---|--|--------------------|
| 894              | 13755           | 28416          | 1.83              | 0.0E+00 AF11170.3                    | NT  | Hom sapiens 14q32 Jagged2 gene, complete cds; and unknown gene   |                    |
| 895              | 13755           | 28416          | 2.3               | 0.0E+00 AF11170.3                    | NT  | Hom sapiens 14q32 Jagged2 gene, complete cds; and unknown gene   |                    |
| 896              | 13756           | 28417          | 3.76              | 0.0E+00 AF11170.3                    | NT  | Hom sapiens 14q32 Jagged2 gene, complete cds; and unknown gene   |                    |
| 899              | 13759           | 26420          | 3.06              | 0.0E+00 7601685 NT                   | Hom sapiens DKFZP-886M0122 protein (mitofillin) (MIFT), mRNA                      |  |                    |
| 1003             | 13763           | 28424          | 2.5               | 0.0E+00 5803114 NT                   | Hom sapiens inner membrane protein, mitochondrial (mitofillin) (MIFT), mRNA       |  |                    |
| 1004             | 13764           |                | 1.43              | 0.0E+00 AA458680.1                   | EST_HUMAN   | aa86g07.51 Strategene fetal retina 837202 Homo sapiens cDNA clone IMAGE:838238 3' similar to SW:PRSS8_HUMAN P47210 28S PROTEASE REGULATOR SUBUNIT 8; |                    |
| 1007             | 13767           | 28429          | 1.9               | 0.0E+00 NA3182.1                     | EST_HUMAN   | EST5124 WATM1 Homo sapiens cDNA clone 51124 similar to DNA-DIRECTED RNA POLYMERASE II (alignmnet Ser and Pro with BLASTx or p)                       |                    |
| 1010             | 13770           |                | 3.36              | 0.0E+00 8922833 NT                   | Hom sapiens hypothetical protein FLJ11986 (FLJ11986), mRNA                        |  |                    |
| 1025             | 13785           | 28445          | 2.49              | 0.0E+00 4758569 NT                   | Hom sapiens heat shock 70kD protein 98 (mortalin-2) (HSF4B) mRNA                  |  |                    |
| 1043             | 13802           | 28480          | 1.89              | 0.0E+00 4826872 NT                   | Hom sapiens cathefin G, K-cathefelin (fetal kidney) (CDH18) mRNA                  |  |                    |
| 1043             | 13802           | 28481          | 1.89              | 0.0E+00 4826872 NT                   | Hom sapiens cathefelin G, K-cathefelin (fetal kidney) (CDH18) mRNA                |  |                    |
| 1047             | 13806           | 28485          | 3.63              | 0.0E+00 8923624 NT                   | Hom sapiens hypothetical protein FLJ20695 (FLJ20695), mRNA                        |  |                    |
| 1047             | 13806           | 28486          | 3.63              | 0.0E+00 8923624 NT                   | Hom sapiens hypothetical protein FLJ20695 (FLJ20695), mRNA                        |  |                    |
| 1049             | 13807           | 28487          | 119.02            | 0.0E+00 AJ245822.1                   | NT  | Hom sapiens hypothetical protein FLJ20680 (FLJ20680), mRNA   |                    |
| 1050             | 13809           |                | 1.19              | 0.0E+00 8923687 NT                   | Hom sapiens arylalkylamine N-acetyltransferase; aryl homolog (ABH), mRNA          |  |                    |
| 1052             | 13811           | 28471          | 3.52              | 0.0E+00 6174S84 NT                   | Hom sapiens Death associated protein 3 (DAP3) mRNA                                |  |                    |
| 1060             | 13818           | 28480          | 2.3               | 0.0E+00 4758117 NT                   | MIR-BN0115-203500-003-h08 BN0115 Homo sapiens cDNA                                |  |                    |
| 1074             | 13832           | 28490          | 2.2               | 0.0E+00 BE005208.1                   | EST_HUMAN   | MIR-BN0115-203500-003-h08 BN0115 Homo sapiens cDNA member 9 (KCNA9), mRNA  |                    |
| 1097             | 13855           | 28514          | 8.04              | 0.0E+00 7706134 NT                   | Hom sapiens potassium channel, subfamily K, member 9 (KCNA9), mRNA                |  |                    |
| 1097             | 13855           | 28515          | 8.04              | 0.0E+00 7706134 NT                   | Hom sapiens potassium channel, subfamily K, member 9 (KCNA9), mRNA                |  |                    |
| 1110             | 13867           | 26526          | 0.9               | 0.0E+00 4826947 NT                   | Hom sapiens protein kinase, X-linked (PRKX) mRNA                                  |  |                    |
| 1110             | 13867           | 26528          | 0.9               | 0.0E+00 4826947 NT                   | Hom sapiens protein kinase, X-linked (PRKX) mRNA                                  |  |                    |
| 1111             | 13868           | 26527          | 4.27              | 0.0E+00 4506712 NT                   | Hom sapiens hypothetical protein FLJ20309 (FLJ20309), mRNA                        |  |                    |
| 1113             | 13870           | 26529          | 0.96              | 0.0E+00 88223290 NT                  | Hom sapiens DNA for Human P2XN, complete cds                                      |  |                    |
| 1116             | 13873           | 26532          | 23.77             | 0.0E+00 AB002059.1 NT                | Hom sapiens DNA for Human P2XN, complete cds                                      |  |                    |
| 1118             | 13876           | 26533          | 44.3              | 0.0E+00 AB002059.1 NT                | Hom sapiens similar to rat integral membrane glycoprotein POM121 (POM121L1), mRNA |  |                    |
| 1119             | 13876           | 26534          | 5.51              | 0.0E+00 7657468 NT                   | Hom sapiens similar to rat integral membrane glycoprotein POM121 (POM121L1), mRNA |  |                    |
| 1119             | 13876           | 26535          | 5.51              | 0.0E+00 7657468 NT                   | Hom sapiens similar to rat integral membrane glycoprotein POM121 (POM121L1), mRNA |  |                    |
| 1122             | 13878           | 26537          | 1.1               | 0.0E+00 7706500 NT                   | Hom sapiens Npm38-binding protein NpmBP (LOC51178), mRNA                          |  |                    |
| 1123             | 13879           | 26539          | 0.87              | 0.0E+00 X95826.1 NT                  | H.sapiens ART4 gene   |  |                    |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No: | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 1123             | 13879           | 26539          | 0.87              | 0.0E+00                              | X983826.1             | NT                      | H.sapiens ART4 gene  |
| 1124             | 13880           | 26540          | 0.92              | 0.0E+00                              | AI147850.1            | EST_HUMAN               | qb22010x1 Scores_pregnant_uterus_nbHPU_Homo sapiens cDNA clone IMAGE:16970113'               |
| 1126             | 13882           | 26542          | 1.58              | 0.0E+00                              | AB220710.1            | NT                      | Homo sapiens mRNA for KIAA0003 protein, partial cds  |
| 1133             | 13889           | 26548          | 0.71              | 0.0E+00                              | 4758081               | NT                      | Homo sapiens chondroitin sulfate proteoglycan 2 (versican) (CSPG2) mRNA                      |
| 1133             | 13889           | 26549          | 0.71              | 0.0E+00                              | 4758081               | NT                      | Homo sapiens chondroitin sulfate proteoglycan 2 (versican) (CSPG2) mRNA                      |
| 1134             | 13890           | 26550          | 1.39              | 0.0E+00                              | 9968844               | NT                      | Homo sapiens chromosome 12 open reading frame 3 (C12orf3), mRNA                              |
| 1145             | 13890           | 26561          | 0.83              | 0.0E+00                              | 7305078               | NT                      | Homo sapiens glutamates decarboxylase 1 (brain, 67kD) (GAD1), transcript variant GAD25, mRNA |
| 1145             | 13890           | 26562          | 0.83              | 0.0E+00                              | 7305078               | NT                      | Homo sapiens glutamate decarboxylase 1 (brain, 67kD) (GAD1), transcript variant GAD25, mRNA  |
| 1148             | 13893           | 26565          | 1.85              | 0.0E+00                              | AB037835.1            | NT                      | Homo sapiens mRNA for KIAA1414 protein, partial cds  |
| 1155             | 138910          | 26574          | 0.76              | 0.0E+00                              | 4557787               | NT                      | Homo sapiens keratin 18 (KRT18) mRNA   |
| 1167             | 13821           | 26583          | 4.54              | 0.0E+00                              | AF034986.1            | NT                      | Homo sapiens amphiphysin I mRNA, alternative splice isoform, complete cds                    |
| 1187             | 13839           |                | 1.52              | 0.0E+00                              | 7657336               | NT                      | Homo sapiens multi_(E. coli) homolog 3 (MLH3), mRNA  |
| 1201             | 13853           | 26617          | 1.7               | 0.0E+00                              | 8922593               | NT                      | Homo sapiens hypothetical protein FLJ10587 (FLJ10587), mRNA                                  |
| 1204             | 13896           | 26620          | 1.53              | 0.0E+00                              | AF284750.1            | NT                      | Homo sapiens ALR-like protein mRNA, partial cds  |
| 1204             | 13896           | 26621          | 1.53              | 0.0E+00                              | AF284750.1            | NT                      | Homo sapiens ALR-like protein mRNA, partial cds  |
| 1205             | 13897           | 26622          | 1.77              | 0.0E+00                              | AF284750.1            | NT                      | Homo sapiens ALR-like protein mRNA, partial cds  |
| 1206             | 13892           | 26623          | 1.53              | 0.0E+00                              | AF284750.1            | NT                      | Homo sapiens chromosome 3 subtelomeric region  |
| 1224             | 13974           | 26846          | 9.12              | 0.0E+00                              | AF109718.1            | NT                      | Homo sapiens chondroitin sulfate proteoglycan 4 (melanoma-associated) (CSPG4), mRNA          |
| 1225             | 13975           | 26847          | 1.71              | 0.0E+00                              | 4503098               | NT                      | Homo sapiens NF2 gene  |
| 1243             | 13892           |                | 2.33              | 0.0E+00                              | Y18000.1              | NT                      | Homo sapiens ribosomal protein S2 (RPS2) mRNA  |
| 1251             | 14000           | 26867          | 23.59             | 0.0E+00                              | 4505718               | NT                      | Homo sapiens Williams-Beuren syndrome deletion transcript 9 (WBSCR9) mRNA, complete cds      |
| 1258             | 14007           | 26876          | 3.07              | 0.0E+00                              | AF084478.1            | NT                      | Homo sapiens mRNA for KIAA1507 protein, partial cds  |
| 1265             | 14014           | 26881          | 2.07              | 0.0E+00                              | AB040940.1            | NT                      | Homo sapiens mRNA for KIAA1507 protein, partial cds  |
| 1266             | 14014           | 26882          | 2.07              | 0.0E+00                              | AF0840940.1           | NT                      | Homo sapiens Williams-Beuren syndrome (WFS) mRNA   |
| 1277             | 14027           | 26885          | 2.04              | 0.0E+00                              | 5174748               | NT                      | Homo sapiens Williams-Beuren syndrome (WFS) mRNA   |
| 1277             | 14027           | 26896          | 2.04              | 0.0E+00                              | 5174748               | NT                      | Homo sapiens Williams-Beuren syndrome (WFS) mRNA   |
| 1277             | 14027           | 26897          | 2.04              | 0.0E+00                              | 5174748               | NT                      | Homo sapiens protein phosphatase 2A BR gamma subunit gene, exon 5                            |
| 1278             | 14028           |                | 3.78              | 0.0E+00                              | AF086158.1            | NT                      | Homo sapiens rheboid tumor deletion region protein 1 (R1TDR1), mRNA                          |
| 1283             | 15584           | 28709          | 1.63              | 0.0E+00                              | 7857529               | NT                      | Homo sapiens rheboid tumor deletion region protein 1 (R1TDR1), mRNA                          |
| 1288             | 15584           | 28710          | 1.63              | 0.0E+00                              | 7857529               | NT                      | Homo sapiens ring finger protein 9 (RNF9), mRNA  |
| 1283             | 14042           | 28715          | 2.03              | 0.0E+00                              | 5803148               | NT                      | Homo sapiens protein phosphatase 2A BR gamma subunit gene, exon 5                            |
| 1284             | 14043           | 28716          | 0.89              | 0.0E+00                              | 4508004               | NT                      | Homo sapiens zinc finger protein 9 (RNF9), mRNA  |
| 1286             | 14045           | 28717          | 1.12              | 0.0E+00                              | 5803148               | NT                      | Homo sapiens zinc finger protein 173 (ZNF173) mRNA   |
| 1287             | 14046           | 28718          | 0.72              | 0.0E+00                              | 4508004               | NT                      | Homo sapiens zinc finger protein 173 (ZNF173) mRNA   |

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|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--------------------|
| 1289             | 14048           | 28720          | 4.71              | 0.0E+00 AB011149.1                   | NT                    | Homo sapiens mRNA for KIAA0577 protein, complete cds   |                    |
| 1300             | 14049           | 28721          | 2.04              | 0.0E+00                              | 7681985 NT            | Homo sapiens KIAA0170 gene product (KIAA0170), mRNA  |                    |
| 1301             | 14050           | 28722          | 6.88              | 0.0E+00                              | 7681985 NT            | Homo sapiens KIAA0170 gene product (KIAA0170), mRNA  |                    |
| 1302             | 14051           | 28723          | 3.01              | 0.0E+00                              | 8567387 NT            | Homo sapiens period (Drosophila) homolog 3 (PER3), mRNA  |                    |
| 1302             | 14051           | 28724          | 3.01              | 0.0E+00                              | 8567387 NT            | Homo sapiens period (Drosophila) homolog 3 (PER3), mRNA  |                    |
| 1314             | 14062           | 28737          | 1.82              | 0.0E+00 M14123.1                     | NT                    | Human endogenous retrovirus HERV-K10   |                    |
| 1387             | 14134           | 28809          | 1.38              | 0.0E+00 AJ250014.1                   | NT                    | Homo sapiens mRNA for Familial Cystinomatosis cyst gene  |                    |
| 1393             | 14140           | 28817          | 3.39              | 0.0E+00 AJ277892.1                   | NT                    | Homo sapiens partial TTN gene for titin  |                    |
| 1398             | 14143           | 28821          | 1.59              | 0.0E+00 AI208758.1                   | EST_HUMAN             | Q83B06_X1_Searce_tests_NHT_Homo_sapiens cDNA clone IMAGE:1837427 3' similar to WP:T2/A1.5 CE14213; |                    |
| 1397             | 14144           | 28822          | 13.21             | 0.0E+00                              | 6042208 NT            | RAN, member RAS oncogene family-Homo sapiens RAN, member RAS oncogene family (RAN), mRNA           |                    |
| 1406             | 14153           | 28833          | 6                 | 0.0E+00                              | 4605846 NT            | Homo sapiens proprotein convertase subtilisin/kevin type 2 (PCSK2), mRNA                           |                    |
| 1406             | 14153           | 28834          | 5                 | 0.0E+00                              | 4505849 NT            | Homo sapiens proprotein convertase subtilisin/kevin type 2 (PCSK2), mRNA                           |                    |
| 1408             | 14155           | 28837          | 4.08              | 0.0E+00                              | 7705585 NT            | Homo sapiens KIAA1114 protein (KIAA1114), mRNA   |                    |
| 1408             | 14155           | 28838          | 4.08              | 0.0E+00                              | 7705585 NT            | Homo sapiens KIAA1114 protein (KIAA1114), mRNA   |                    |
| 1410             | 14157           | 28839          | 4.59              | 0.0E+00 AJ238098.1                   | NT                    | Homo sapiens partial AF-4 gene, exons 2 to 7 and Alu repeat elements                               |                    |
| 1420             | 14168           | 28852          | 3.02              | 0.0E+00 AF0382280.1                  | NT                    | Homo sapiens alpha 1-6fucosyltransferase (alpha1-6FucT) gene, exon 7                               |                    |
| 1431             | 14178           | 28863          | 5.39              | 0.0E+00                              | 4507720 NT            | Homo sapiens titin (TTN) mRNA  |                    |
| 1431             | 14178           | 28864          | 5.39              | 0.0E+00                              | 4507720 NT            | Homo sapiens titin (TTN) mRNA  |                    |
| 1436             | 14183           | 28868          | 17.93             | 0.0E+00 U35837.1                     | NT                    | Human nebulin mRNA, partial cds  |                    |
| 1436             | 14183           | 28869          | 17.93             | 0.0E+00 U35837.1                     | NT                    | Human nebulin mRNA, partial cds  |                    |
| 1446             | 14193           | 28876          | 2.59              | 0.0E+00 AL132898.1                   | NT                    | Novel human gene on chromosome 20  |                    |
| 1447             | 14194           | 28877          | 1.82              | 0.0E+00 AL137764.1                   | NT                    | Novel human gene mapping to chromosome 1   |                    |
| 1451             | 14198           | 28882          | 1.73              | 0.0E+00 D87077.1                     | NT                    | Human mRNA for KIAA0240 gene, partial cds  |                    |
| 1454             | 14201           | 28885          | 4.53              | 0.0E+00                              | 8912457 NT            | Homo sapiens calcineurin binding protein 1 (KIAA0330), mRNA  |                    |
| 1456             | 14203           | 28887          | 1.65              | 0.0E+00                              | 7681985 NT            | Homo sapiens KIAA0170 gene product (KIAA0170), mRNA  |                    |
| 1456             | 14203           | 28888          | 1.55              | 0.0E+00                              | 7661985 NT            | Homo sapiens KIAA0170 gene product (KIAA0170), mRNA  |                    |
| 1460             | 14207           | 28893          | 0.97              | 0.0E+00 M806763.1                    | NT                    | Human von Willebrand factor pseudogene corresponding to exons 23 through 34                        |                    |
| 1460             | 14207           | 28894          | 0.97              | 0.0E+00 M806763.1                    | NT                    | Human von Willebrand factor pseudogene corresponding to exons 23 through 34                        |                    |
| 1500             | 14246           | 28932          | 1.37              | 0.0E+00                              | 7708434 NT            | Human hHDC for homolog of Drosophila headcase (LOC51698), mRNA                                     |                    |
| 1516             | 14283           | 28949          | 1.21              | 0.0E+00 AW958687.1                   | EST_HUMAN             | EST37757 IMAGE sequences, MAGF Homo sapiens cDNA   |                    |
| 1517             | 14284           | 28950          | 1.76              | 0.0E+00 AA481172.1                   | EST_HUMAN             | 883403.1 NCI_OGAP_GCB1 Homo sapiens cDNA clone IMAGE:815116 5                                      |                    |
| 1522             | 14289           | 28953          | 49.82             | 0.0E+00 AF023880.1                   | NT                    | Cercopithecus aethiops cyclophilin A mRNA, complete cds  |                    |

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|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 1522             | 14269           | 26854          | 49.82             | 0.0E+00                              | AF023880.1            | NT                      | Carcinophilus asthlopis cyclophilin A mRNA, complete cds  |
| 1524             | 14271           | 26857          | 1.24              | 0.0E+00                              | AW876097.1            | EST_HUMAN               | EST388208 IMAGE resequences, MAGN Homo sapiens cDNA EST388206 IMAGE resequences, MAGN Homo sapiens cDNA   |
| 1524             | 14271           | 26858          | 1.24              | 0.0E+00                              | AW876097.1            | EST_HUMAN               | EST388208 IMAGE resequences, MAGN Homo sapiens cDNA   |
| 1525             | 14272           | 26859          | 5.49              | 0.0E+00                              | D10884.1              | NT                      | Bovine mRNA for neutrophilic  |
| 1527             | 14274           |                | 2.07              | 0.0E+00                              | U78027.1              | NT                      | Homo sapiens Bruton's tyrosine kinase (BTK), alpha-D-galactosidase A (GLA), L74-like ribosomal protein (L4L.) and FTP3 (FTP3) genes, complete cds |
| 1528             | 14275           | 26862          | 2.1               | 0.0E+00                              | 4505404               | NT                      | Homo sapiens transmembrane glycoprotein (GP91MB) mRNA   |
| 1528             | 14275           | 26863          | 2.1               | 0.0E+00                              | 4505404               | NT                      | Homo sapiens transmembrane glycoprotein (GP91MB) mRNA   |
| 1530             | 14277           | 26865          | 3.3               | 0.0E+00                              | 7682405               | NT                      | Homo sapiens KIAA0367 protein (KIAA0367), mRNA  |
| 1531             | 14278           |                | 7.29              | 0.0E+00                              | 7656872               | NT                      | Homo sapiens TNF-inducible protein CG12-1 (CG12-1), mRNA  |
| 1537             | 14284           | 26871          | 1.84              | 0.0E+00                              | M89478.1              | NT                      | Human transglutaminase mRNA, complete cds   |
| 1540             | 14287           | 26873          | 3.72              | 0.0E+00                              | 4507720               | NT                      | Homo sapiens titin (TTN) mRNA   |
| 1540             | 14287           | 26874          | 3.72              | 0.0E+00                              | 4507720               | NT                      | Homo sapiens titin (TTN) mRNA   |
| 1541             | 15572           |                | 11.72             | 0.0E+00                              | 4506554               | NT                      | Homo sapiens ribosomal protein L5 (RPL5) mRNA   |
| 1542             | 14288           | 26895          | 11.72             | 0.0E+00                              | M14198.1              | NT                      | Human laminin receptor (2H5 epitope) mRNA, 5' end   |
| 1553             | 14300           | 26898          | 2.86              | 0.0E+00                              | 4507720               | NT                      | Homo sapiens titin (TTN) mRNA   |
| 1553             | 14300           | 26899          | 2.86              | 0.0E+00                              | 4507720               | NT                      | Homo sapiens titin (TTN) mRNA   |
| 1555             | 14302           | 26890          | 11.7              | 0.0E+00                              | 4503998               | NT                      | Homo sapiens chondroitin sulfate proteoglycan 4 (melanoma-associated) (CSPG4), mRNA   |
| 1563             | 14310           |                | 1.21              | 0.0E+00                              | D00333.1              | NT                      | Human o-type-2 gene   |
| 1574             | 14321           | 27007          | 1.65              | 0.0E+00                              | Z253738.1             | NT                      | H.sapiens H2B8e gene  |
| 1575             | 14322           | 27008          | 1.58              | 0.0E+00                              | 5921480               | NT                      | Homo sapiens butyrophilin, subfamily 2, member A1 (BTN2A1), mRNA  |
| 1575             | 14322           | 27009          | 1.58              | 0.0E+00                              | 5921480               | NT                      | Homo sapiens butyrophilin, subfamily 2, member A1 (BTN2A1), mRNA  |
| 1576             | 14323           | 27010          | 11.18             | 0.0E+00                              | A1/690831.1           | EST_HUMAN               | AV680831 GKC Homo sapiens cDNA clone GKCB0F02 5'  |
| 1576             | 14323           | 27011          | 11.18             | 0.0E+00                              | A1/690831.1           | EST_HUMAN               | AV680831 GKC Homo sapiens cDNA clone GKCB0F02 5'  |
| 1579             | 15573           | 27014          | 9.86              | 0.0E+00                              | A0040805.1            | NT                      | Homo sapiens mRNA for KIAA1472 protein, partial cds   |
| 1583             | 14329           | 27015          | 1.63              | 0.0E+00                              | AF157476.1            | NT                      | Homo sapiens DNA polymerase zeta catalytic subunit (REV3) mRNA, complete cds  |
| 1585             | 14331           | 27016          | 9.78              | 0.0E+00                              | 7682183               | NT                      | Homo sapiens KIAA0369 gene product (KIAA0369), mRNA   |
| 1585             | 14331           | 27019          | 9.78              | 0.0E+00                              | 7682183               | NT                      | Homo sapiens KIAA0369 gene product (KIAA0369), mRNA   |
| 1587             | 14333           | 27020          | 42.76             | 0.0E+00                              | 5729876               | NT                      | Homo sapiens heat shock 70kD protein 10 (HS271) (HS271), mRNA   |
| 1587             | 14333           | 27021          | 42.75             | 0.0E+00                              | 5729876               | NT                      | Homo sapiens heat shock 70kD protein 10 (HS271) (HS271), mRNA   |
| 1589             | 14335           | 27023          | 7.94              | 0.0E+00                              | M611803.1             | NT                      | Human sodium channel mRNA   |
| 1604             | 14350           | 27039          | 6.85              | 0.0E+00                              | H26973.1              | EST_HUMAN               | Y07805 s1 Scans adult brain N2b4HB5Y Homo sapiens cDNA clone IMAGE-183848.3'  |
| 1614             | 14981           | 27051          | 2                 | 0.0E+00                              | A0046829.1            | NT                      | Homo sapiens mRNA for KIAA1609 protein, partial cds   |
| 1614             | 14981           | 27052          | 2                 | 0.0E+00                              | A0046829.1            | NT                      | Homo sapiens mRNA for KIAA1609 protein, partial cds   |

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## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 1659             | 14405           | 27085          |                   | 1.25<br>0.0E+00                      | BE144364.1            | EST_HUMAN               | MF0-HHT0168-191199-004-b111 HT0168 Homo sapiens cDNA  |
| 1659             | 14405           | 27098          |                   | 1.25<br>0.0E+00                      | BE144364.1            | EST_HUMAN               | MF0-HHT0168-191199-004-b111 HT0168 Homo sapiens cDNA  |
| 1663             | 14409           | 27100          |                   | 1.68<br>0.0E+00                      | AI768104.1            | EST_HUMAN               | wg81507.x1 Scans NSF_F8_9W_OT_PA_P_S1 Homo sapiens cDNA clone IMAGE-2371477 3' similar to TR:Q62788 Q62788 CYS2HIS2 ZINC FINGER PROTEIN ;       |
| 1664             | 14410           | 27101          |                   | 1.2<br>0.0E+00                       | 4788513 NT            |                         | Homo sapiens hematopoietic-derived zinc finger protein (HD-ZNF) mRNA  |
| 1665             | 14411           | 27102          |                   | 2.61<br>0.0E+00                      | AF057177.1            | NT                      | Homo sapiens T-cell receptor gamma V1 gene region   |
| 1669             | 14414           | 27108          |                   | 1.76<br>0.0E+00                      | M28580.1              | NT                      | Human zho-finger protein 7 (ZFP7) mRNA, complete cds  |
| 1669             | 14414           | 27107          |                   | 1.76<br>0.0E+00                      | M28580.1              | NT                      | Human zho-finger protein 7 (ZFP7) mRNA, complete cds  |
| 1671             | 14416           | 27109          |                   | 1.35<br>0.0E+00                      | 4557887 NT            |                         | Homo sapiens keratin 18 (KRT18) mRNA  |
| 1672             | 14417           | 27110          |                   | 1.6<br>0.0E+00                       | 7657085 NT            |                         | Homo sapiens v-ets avian erythroblastosis virus E26 oncogene related (ERG) mRNA   |
| 1675             | 14420           | 27113          |                   | 1.12<br>0.0E+00                      | BE222874.1            | EST_HUMAN               | hu1105.x1 NCI_CGAP_L124 Homo sapiens cDNA clone IMAGE-3168281 3' similar to TR:O85147 O85147 MKP-1 LIKE PROTEIN TYROSINE PHOSPHATASE ;          |
| 1675             | 14420           | 27114          |                   | 1.12<br>0.0E+00                      | BE222874.1            | EST_HUMAN               | hu1105.x1 NCI_CGAP_L124 Homo sapiens cDNA clone IMAGE-3168281 3' similar to TR:O85147 O85147 MKP-1 LIKE PROTEIN TYROSINE PHOSPHATASE ;          |
| 1677             | 14421           | 27118          |                   | 3.24<br>0.0E+00                      | 4557610 NT            |                         | Homo sapiens gamma-aminobutyric acid (GABA) A receptor, gamma2 (GABRG2) mRNA  |
| 1680             | 14424           | 27119          |                   | 3.16<br>0.0E+00                      | H30132.1              | EST_HUMAN               | yc58e08.r1 Scans breast 3NIHBst Homo sapiens cDNA clone IMAGE-182246 5' similar to gb:M34099 GAMMA-GLUTAMYL TRANSPEPTIDASE 6 PRECURSOR (HUMAN); |
| 1680             | 14424           | 27120          |                   | 3.18<br>0.0E+00                      | H30132.1              | EST_HUMAN               | yc58e08.r1 Scans breast 3NIHBst Homo sapiens cDNA clone IMAGE-182246 5' similar to gb:M34099 GAMMA-GLUTAMYL TRANSPEPTIDASE 6 PRECURSOR (HUMAN); |
| 1682             | 14428           | 27122          |                   | 1.32<br>0.0E+00                      | 280790.1              | NT                      | H.sapiens H2Bf1 gene  |
| 1682             | 14426           | 27123          |                   | 1.32<br>0.0E+00                      | ZB0780.1              | NT                      | H.sapiens H2Bf1 gene  |
| 1685             | 14429           |                |                   | 13.71<br>0.0E+00                     | 5031748 NT            |                         | Homo sapiens High-mobility group (nonhistone chromosomal) protein 17 (HMG17), mRNA  |
| 1693             | 14437           | 27133          |                   | 1.11<br>0.0E+00                      | AF168983.1            | NT                      | Homo sapiens WNT16 protein (WNT16) mRNA, complete cds   |
| 1695             | 14438           | 27138          |                   | 3.53<br>0.0E+00                      | 8923841 NT            |                         | Homo sapiens FOXJ2 forkhead factor (LOC55810), mRNA   |
| 1702             | 14445           | 27145          |                   | 1.11<br>0.0E+00                      | 4826873 NT            |                         | Homo sapiens RNA binding motif protein, Y chromosome, family 1, member A1 (FBMY1A1) mRNA  |
| 1708             | 14461           | 27162          |                   | 4.08<br>0.0E+00                      | AB026542.1            | NT                      | Homo sapiens WAVE2 mRNA for WASP-family protein, complete cds   |
| 1710             | 14453           |                |                   | 2.19<br>0.0E+00                      | S844400.1             | NT                      | TGF zeta [human, Genomic] mRNA, 365 nt, segment 1 of 8]   |
| 1725             | 15577           | 27167          |                   | 1.16<br>0.0E+00                      | 11545611 NT           |                         | Homo sapiens NOD2 protein (NOD2), mRNA  |
| 1739             | 14481           | 27181          |                   | 1.83<br>0.0E+00                      | AF273841.1            | NT                      | Homo sapiens SMCY (SMCY) gene, complete cds   |
| 1778             | 15578           |                |                   | 6.86<br>0.0E+00                      | 4506718 NT            |                         | Homo sapiens ribosomal protein S2 (RPS2) mRNA   |
| 1782             | 14523           | 27228          |                   | 3.37<br>0.0E+00                      | 4557556 NT            |                         | Homo sapiens EA binding protein p300 (EP300) mRNA   |
| 1782             | 14523           | 27229          |                   | 3.37<br>0.0E+00                      | 4557556 NT            |                         | Homo sapiens EA binding protein p300 (EP300) mRNA   |
| 1784             | 14526           | 27232          |                   | 1.42<br>0.0E+00                      | U63963.1              | NT                      | Human CSF-1 receptor (FMS) gene, complete cds, and (SMF) gene, partial cds  |
| 1787             | 14528           |                |                   | 1.2<br>0.0E+00                       | W76871.1              | EST_HUMAN               | zds6g08.r1 Scans_fetal_heart_NbHH18W Homo sapiens cDNA clone IMAGE-345684 5'  |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 1788             | 15570           | 27228          | 2.74              | 0.0E+00                              | 4605332               | NT                      | Homo sapiens nuclear autoantigenic sperm protein (histone-binding) (NASP) mRNA                   |
| 1800             | 14540           | 27251          | 5.68              | 0.0E+00                              | U14967.1              | NT                      | Human ribosomal protein L21 mRNA, complete cds   |
| 1802             | 14542           | 27254          | 2.79              | 0.0E+00                              | AB002331.1            | NT                      | Human mRNA for KIAA0333 gene, partial cds  |
| 1803             | 14543           | 27255          | 4.07              | 0.0E+00                              | 4502264               | NT                      | Homo sapiens activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) mRNA |
| 1803             | 14543           | 27256          | 4.07              | 0.0E+00                              | 4502264               | NT                      | Homo sapiens activating transcription factor 4 (tax-responsive enhancer element B67) (ATF4) mRNA |
| 1803             | 14543           | 27257          | 4.07              | 0.0E+00                              | 4502264               | NT                      | Homo sapiens receptor-type tyrosine phosphatase, zeta polypeptide 1 (PTPRZ1) mRNA                |
| 1812             | 14552           | 27268          | 1.63              | 0.0E+00                              | 4506328               | NT                      | Homo sapiens Retina-derived POU-domain factor-1 (RPF-1), mRNA                                    |
| 1826             | 14563           | 27276          | 5.82              | 0.0E+00                              | 6005835               | NT                      | Homo sapiens Retina-derived POU-domain factor-1 (RPF-1), mRNA                                    |
| 1826             | 14565           | 27277          | 5.82              | 0.0E+00                              | 6005835               | NT                      | Homo sapiens mRNA for KIAA1152 protein, partial cds  |
| 1836             | 14575           | 27287          | 1.12              | 0.0E+00                              | AB032978.1            | NT                      | Homo sapiens mRNA for KIAA1152 protein, partial cds  |
| 1836             | 14575           | 27288          | 1.12              | 0.0E+00                              | AB032978.1            | NT                      | Homo sapiens mRNA for KIAA1152 protein, partial cds  |
| 1840             | 14578           | 27280          | 4.35              | 0.0E+00                              | 4826783               | NT                      | Homo sapiens potassium voltage-gated channel, Shab-related subfamily, member 1 (KCNB1) mRNA      |
| 1840             | 14578           | 27281          | 4.35              | 0.0E+00                              | 4826783               | NT                      | Homo sapiens potassium voltage-gated channel, Shab-related subfamily, member 1 (KCNB1) mRNA      |
| 1840             | 14578           | 27282          | 5.47              | 0.0E+00                              | U07147.1              | NT                      | Human retinal degeneration slow (RDS) gene, exon 1   |
| 1841             | 14578           | 27283          | 5.47              | 0.0E+00                              | U07147.1              | NT                      | Human retinal degeneration slow (RDS) gene, exon 1   |
| 1841             | 14579           | 27284          | 1.46              | 0.0E+00                              | AV207280.1            | EST_HUMAN               | U1H-B11-efn-f-07-q-U1.s1 NC_ CGAP_Sub3 Homo sapiens cDNA clone IMAGE-2722383 3'                  |
| 1844             | 14582           | 27286          | 1.46              | 0.0E+00                              | AV207280.1            | EST_HUMAN               | U1H-B11-efn-f-07-q-U1.s1 NC_ CGAP_Sub3 Homo sapiens cDNA clone IMAGE-2722383 3'                  |
| 1844             | 14582           | 27287          | 3.49              | 0.0E+00                              | BE277465.1            | EST_HUMAN               | U0117916AF1 NIH MGC_20 Homo sapiens cDNA clone IMAGE-3547239 5'                                  |
| 1888             | 14606           | 27316          | 3.49              | 0.0E+00                              | BE277465.1            | EST_HUMAN               | U0117916AF1 NIH MGC_20 Homo sapiens cDNA clone IMAGE-3547239 5'                                  |
| 1888             | 14606           | 27317          | 0.93              | 0.0E+00                              | BE006292.1            | EST_HUMAN               | RC2-BN0126-200300-012-b04 BN0126 Homo sapiens cDNA   |
| 1887             | 14624           | 27334          | 2.16              | 0.0E+00                              | 4506384               | NT                      | Homo sapiens RAD1 (S. pombe) homolog (RAD1) mRNA, and translated products                        |
| 1916             | 14633           | 27362          | 2.16              | 0.0E+00                              | 4506384               | NT                      | Homo sapiens RAD1 (S. pombe) homolog (RAD1) mRNA, and translated products                        |
| 1916             | 14633           | 27363          | 2.16              | 0.0E+00                              | AF157476.1            | NT                      | Homo sapiens DNA polymerase zeta catalytic subunit (REV3) mRNA, complete cds                     |
| 1924             | 14681           |                | 1.22              | 0.0E+00                              | M88478.1              | NT                      | Human transglutaminase mRNA, complete cds  |
| 1925             | 15682           | 27372          | 1.18              | 0.0E+00                              | M88478.1              | NT                      | Human transglutaminase mRNA, complete cds  |
| 1925             | 15582           | 27373          | 1.19              | 0.0E+00                              | 4507484               | NT                      | Homo sapiens transforming growth factor, beta 3 (TGFBB3) mRNA                                    |
| 1930             | 14668           | 27380          | 1.53              | 0.0E+00                              | 4507484               | NT                      | Homo sapiens transforming growth factor, beta 3 (TGFBB3) mRNA                                    |
| 1930             | 14668           | 27381          | 1.53              | 0.0E+00                              | 7657038               | NT                      | Homo sapiens death receptor 6 (DR6) mRNA   |
| 1933             | 14668           | 27383          | 1.42              | 0.0E+00                              | 7657038               | NT                      | Homo sapiens death receptor 6 (DR6) mRNA   |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|--|
| 1835             | 14870           |                |                   | 4.27                             | 0.0E+00 AF240788.1    | NT                      | Homo sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1) genes, complete cds |
| 1940             | 14875           |                |                   | 1.35                             | 0.0E+00 M55832.1      | NT                      | Human topoisomerase I pseudogene 1   |
| 1949             | 14884           | 27396          |                   | 1.94                             | 0.0E+00 48089282.2    | NT                      | Human histidine ammonia-lyase (HAL) mRNA   |
| 1949             | 14884           | 27397          |                   | 1.84                             | 0.0E+00 48089282.2    | NT                      | Human sapiens histidine ammonia-lyase (HAL) mRNA   |
| 1959             | 14895           |                |                   | 1.15                             | 0.0E+00 AL163252.2    | NT                      | Human sapiens chromosome 21 segment HS21G352   |
| 1981             | 14897           | 27410          |                   | 1.09                             | 0.0E+00 8400716       | NT                      | Human sapiens nebulin (NEB), mRNA  |
| 1981             | 14897           | 27411          |                   | 1.09                             | 0.0E+00 8400716       | NT                      | Human sapiens nebulin (NEB), mRNA  |
| 1982             | 14898           | 27412          |                   | 2.49                             | 0.0E+00 48268838      | NT                      | Human sapiens actinin, alpha 4 (ACTN4) mRNA  |
| 1982             | 14898           | 27413          |                   | 2.49                             | 0.0E+00 48268838      | NT                      | Human sapiens actinin, alpha 4 (ACTN4) mRNA  |
| 1973             | 14709           | 27427          |                   | 1.36                             | 0.0E+00 AB018353.1    | NT                      | Human sapiens mRNA for KIAA0780 protein, partial cds   |
| 1973             | 14709           | 27428          |                   | 1.36                             | 0.0E+00 AB018353.1    | NT                      | Human TFE3B protein mRNA, partial cds  |
| 1979             | 14715           | 27432          |                   | 1.69                             | 0.0E+00 M33782.1      | NT                      | Human TFE3B protein mRNA, partial cds  |
| 1979             | 14715           | 27433          |                   | 1.69                             | 0.0E+00 M33782.1      | NT                      | x69b01_x1 NCI CGAP Pan1 Homo sapiens cDNA clone IMAGE:26788913 3'  |
| 1881             | 14717           | 27434          |                   | 1.57                             | 0.0E+00 AW185024.1    | EST_HUMAN               | x68b01_x1 NCI CGAP Pan1 Homo sapiens cDNA clone IMAGE:26788913 3'  |
| 1881             | 14717           | 27435          |                   | 1.57                             | 0.0E+00 AW185024.1    | EST_HUMAN               | Human calcineurin binding protein 1 (KIAA0330), mRNA   |
| 1882             | 14718           | 27436          |                   | 5.96                             | 0.0E+00 69112457      | NT                      | Human calcineurin binding protein 1 (KIAA0330), mRNA   |
| 1882             | 14718           | 27437          |                   | 5.96                             | 0.0E+00 69112457      | NT                      | Human KIAA0408 gene product (KIAA0408), mRNA   |
| 1884             | 14720           | 27438          |                   | 2                                | 0.0E+00 7682036       | NT                      | Human mRNA for KIAA0577 protein, complete cds  |
| 1885             | 14721           | 27440          |                   | 1.19                             | 0.0E+00 AB011149.1    | NT                      | Human genes for semenogelin I and semenogelin II   |
| 1886             | 14722           | 27441          |                   | 1.58                             | 0.0E+00 247556.1      | NT                      | Human genes for semenogelin I and semenogelin II   |
| 1886             | 14722           | 27442          |                   | 1.58                             | 0.0E+00 247556.1      | NT                      | Human mRNA for KIAA1513 protein, partial cds   |
| 1883             | 14728           | 27451          |                   | 3.75                             | 0.0E+00 AB040840.1    | NT                      | Human SMCY (SMCY) gene, complete cds   |
| 2014             | 14749           | 27476          |                   | 1.02                             | 0.0E+00 AF273841.1    | NT                      | Human SMCY (SMCY) gene, complete cds   |
| 2014             | 14749           | 27477          |                   | 1.02                             | 0.0E+00 AF273841.1    | NT                      | Human SMCY (SMCY) gene, complete cds   |
| 2040             | 14778           | 27507          |                   | 1.84                             | 0.0E+00 77067742      | NT                      | Human cDNA clone TF53TG3a (TF53TG3a), mRNA   |
| 2052             | 14785           | 27511          |                   | 4.13                             | 0.0E+00 AU140831.1    | EST_HUMAN               | AU140831 PLACE4 Homo sapiens cDNA clone PLACE4000321 5'  |
| 2053             | 14165           | 26837          |                   | 1.55                             | 0.0E+00 7705865       | NT                      | Human KIAA1114 protein (KIAA1114), mRNA  |
| 2053             | 14155           | 26838          |                   | 1.55                             | 0.0E+00 7705865       | NT                      | Human KIAA1114 protein (KIAA1114), mRNA  |
| 2055             | 14787           | 27513          |                   | 2.04                             | 0.0E+00 AA077589.1    | EST_HUMAN               | 7B22E10 Chromosome 7 Fetal Brain cDNA Library Homo sapiens cDNA clone 7B22E10  |
| 2055             | 14787           | 27514          |                   | 2.04                             | 0.0E+00 AA077589.1    | EST_HUMAN               | 7B22E10 Chromosome 7 Fetal Brain cDNA Library Homo sapiens cDNA clone 7B22E10  |
| 2057             | 14789           |                |                   | 2.41                             | 0.0E+00 7657468       | NT                      | Human phosphodiesterase 8A, cGMP-specific, rod, alpha (PDE8A), mRNA  |
| 2059             | 14791           |                |                   | 1.91                             | 0.0E+00 4585983       | NT                      | Human phosphodiesterase 8A, cGMP-specific, rod, alpha (PDE8A), mRNA  |
| 2060             | 14792           | 27517          |                   | 0.97                             | 0.0E+00 Z42359.1      | EST_HUMAN               | HSC01C021 normalized infant brain cDNA Homo sapiens cDNA clone c-Dic022  |

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Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 2062             | 14784           |                |                   | 1.78                                 | 0.0E+00 AI244247.1    | EST_HUMAN               | q90f08_x1 NCI_CGAP_U12 Homo sapiens cDNA clone IMAGE:1988871 3' similar to contains Ali repetitive element                            |
| 2067             | 14789           | 27526          |                   | 3.46                                 | 0.0E+00 BE877225.1    | EST_HUMAN               | 6014851_46F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3887747 5'  |
| 2068             | 14801           | 27528          |                   | 1.43                                 | 0.0E+00 BF345325.1    | EST_HUMAN               | 601902604F1 NIH_MGC_10 Homo sapiens cDNA clone IMAGE:4135320 5'   |
| 2069             | 14801           | 27529          |                   | 1.48                                 | 0.0E+00 BF345325.1    | EST_HUMAN               | 601902604F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:4135320 5'   |
| 2072             | 14804           | 27532          |                   | 3.07                                 | 0.0E+00 BE687125.1    | EST_HUMAN               | RC3-CT0413-270700-022-410 CT0413 Homo sapiens cDNA  |
| 2072             | 14804           | 27638          |                   | 3.07                                 | 0.0E+00 BE687125.1    | EST_HUMAN               | RC3-C10413-270700-022-410 CT0413 Homo sapiens cDNA  |
| 2080             | 14812           | 27544          |                   | 3.71                                 | 0.0E+00 LD0820.1      | NT                      | Human plasma membrane calcium ATPase isoform 2 (ATP2B2) mRNA, complete cds  |
| 2080             | 14812           | 27545          |                   | 3.71                                 | 0.0E+00 LD0820.1      | NT                      | Human plasma membrane calcium ATPase isoform 2 (ATP2B2) mRNA, complete cds  |
| 2085             | 14817           | 27640          |                   | 1.38                                 | 0.0E+00 475-489       | NT                      | Homo sapiens GTP binding protein 1 (GTPBP1) mRNA  |
| 2107             | 14893           |                |                   | 2.08                                 | 0.0E+00 BE767984.1    | EST_HUMAN               | QY1-GN0055-140800-318<10 Gn0085 Homo sapiens cDNA   |
| 2108             | 14839           |                |                   | 1.59                                 | 0.0E+00 AF018983.1    | NT                      | Homo sapiens X-linked juvenile retinoschisis protein (XLRS1) gene, exon 8 and complete cds  |
| 2110             | 14841           | 27572          |                   | 3.78                                 | 0.0E+00 BF027682.1    | EST_HUMAN               | 6011672068F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:3954785 5'  |
| 2111             | 14842           | 27573          |                   | 1.03                                 | 0.0E+00 BE072624.1    | EST_HUMAN               | PM0-BT0547-2105300-004-F04 BT0547 Homo sapiens cDNA   |
|                  |                 |                |                   |                                      |                       |                         | Homo sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1)                                  |
| 2113             | 14844           | 27574          |                   | 1.06                                 | 0.0E+00 AF240786.1    | NT                      | genes, complete cds   |
| 2116             | 14847           | 27576          |                   | 1.3                                  | 0.0E+00 AW752708.1    | EST_HUMAN               | IL3-CT0219-271098-022-G10 CT0219 Homo sapiens cDNA  |
| 2117             | 14848           | 27577          |                   | 1.47                                 | 0.0E+00 L76827.1      | NT                      | Homo sapiens metabotropic glutamate receptor 1 epsilon (mGluR1alpha) mRNA, complete cds   |
| 2118             | 14850           | 27578          |                   | 6.39                                 | 0.0E+00 AF004640.1    | EST_HUMAN               | QV-BT065-020389-082 BT065 Homo sapiens cDNA   |
| 2119             | 14850           | 27680          |                   | 6.39                                 | 0.0E+00 AF004640.1    | EST_HUMAN               | QV-BT066-020389-082 BT066 Homo sapiens cDNA   |
| 2153             | 14883           |                |                   | 1.05                                 | 0.0E+00 7857252       | NT                      | Homo sapiens potassium large conductance calcium-activated channel, subfamily M, beta member 3-like (KCNMB3L), mRNA                   |
| 2179             | 14908           |                |                   | 1.22                                 | 0.0E+00 L14787.1      | NT                      | Human DNA-binding protein mRNA, 3' end  |
| 2183             | 14912           | 27644          |                   | 1.05                                 | 0.0E+00 BE274698.1    | EST_HUMAN               | 601122338F1 NIH_MGC_20 Homo sapiens cDNA clone CBNBDE08 5'  |
| 2185             | 14914           | 27647          |                   | 7.59                                 | 0.0E+00 AY738288.1    | EST_HUMAN               | AY738288 CB Homo sapiens cDNA clone CBNBDE08 5'   |
| 2185             | 14914           | 27648          |                   | 7.59                                 | 0.0E+00 AY738288.1    | EST_HUMAN               | AY738288 CB Homo sapiens cDNA clone CBNBDE08 5'   |
| 2187             | 14916           | 27650          |                   | 1.4                                  | 0.0E+00 AF031691.1    | EST_HUMAN               | cc32a01.s1 NCI_CGAP_Lu5 Homo sapiens cDNA clone IMAGE:1567896 3'  |
| 2191             | 14920           | 27654          |                   | 5.68                                 | 0.0E+00 BT344434.1    | EST_HUMAN               | 602014828F1 NCI_CGAP_Bm34 Homo sapiens cDNA clone IMAGE:4160734 5'  |
| 2192             | 14921           | 27655          |                   | 12.14                                | 0.0E+00 BE748890.1    | EST_HUMAN               | 601572188F1 NIH_MGC_55 Homo sapiens cDNA clone IMAGE:3888012 3'   |
| 2198             | 14925           | 27659          |                   | 3.55                                 | 0.0E+00 BF377887.1    | EST_HUMAN               | CMT-TN0141-250800-438-b08 TN0141 Homo sapiens cDNA  |
| 2198             | 14925           | 27660          |                   | 3.55                                 | 0.0E+00 BF377887.1    | EST_HUMAN               | CMT-TN0141-250800-438-b08 TN0141 Homo sapiens cDNA  |
| 2200             | 15598           | 27685          |                   | 2.04                                 | 0.0E+00 BT313617.1    | EST_HUMAN               | 601900261F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:4128622 5'   |
| 2203             | 14831           | 27688          |                   | 1.83                                 | 0.0E+00 BE018780.1    | EST_HUMAN               | b68-e02Y1 NIH_MGC_10 Homo sapiens cDNA clone IMAGE:3049082 5' similar to TR-Q15170 Q15170 TRANSCRIPTION FACTOR S-II-RELATED PROTEIN : |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|---|
|                  |                 |                |                   |                                      |                       |                         | EST_HUMAN   | EST_HUMAN   |
| 2204             | 14932           | 27689          | 1.65              | 0.0E+00                              | AAD42913.1            | EST_HUMAN               | zg53d07.s1 Soares_pregnant_uterus_NbHPU Homo sapiens cDNA clone IMAGE:486540 3' similar to gb:X65857_cds1 OLFACTORY RECEPTOR-LIKE PROTEIN HGMPOTE (HUMAN) | zg53d07.s1 Soares_pregnant_uterus_NbHPU Homo sapiens cDNA clone IMAGE:486540 3' similar to gb:X65857_cds1 OLFACTORY RECEPTOR-LIKE PROTEIN HGMPOTE (HUMAN) |
| 2204             | 14932           | 27670          | 1.65              | 0.0E+00                              | AA042813.1            | EST_HUMAN               | gb:X65857_cds1 OLFACTORY RECEPTOR-LIKE PROTEIN HGMPOTE (HUMAN)  | gb:X65857_cds1 OLFACTORY RECEPTOR-LIKE PROTEIN HGMPOTE (HUMAN)  |
| 2212             | 14940           | 27678          | 3.37              | 0.0E+00                              | AL163204.2            | NT                      | Hom sapiens chromosome 21 segment HS21C004  | Hom sapiens chromosome 21 segment HS21C004  |
| 2212             | 14940           | 27679          | 3.37              | 0.0E+00                              | AL163204.2            | NT                      | Hom sapiens KIAA0852 protein (KIAA0852), mRNA   | Hom sapiens KIAA0852 protein (KIAA0852), mRNA   |
| 2213             | 14941           | 27680          | 2.3               | 0.0E+00                              | 7862401               | NT                      | Hom sapiens KIAA0852 protein (KIAA0852), mRNA   | Hom sapiens KIAA0852 protein (KIAA0852), mRNA   |
| 2213             | 14941           | 27681          | 2.3               | 0.0E+00                              | 7862401               | NT                      | Human beta-prime-adaptin (BAM22) gene, exon 16  | Human beta-prime-adaptin (BAM22) gene, exon 16  |
| 2218             | 14948           |                | 1.37              | 0.0E+00                              | U38264.1              | NT                      | Hom sapiens E1A binding protein p300 (EP300) mRNA   | Hom sapiens E1A binding protein p300 (EP300) mRNA   |
| 2238             | 14984           | 27704          | 5.71              | 0.0E+00                              | 4557558               | NT                      | Hom sapiens KIAA0852 protein (KIAA0852), mRNA   | Hom sapiens KIAA0852 protein (KIAA0852), mRNA   |
| 2243             | 14971           | 27709          | 2.03              | 0.0E+00                              | 7862401               | NT                      | Hom sapiens cDNA clone IMAGE:3919897 5'   | Hom sapiens cDNA clone IMAGE:3919897 5'   |
| 2250             | 14978           | 27717          | 1.71              | 0.0E+00                              | BE985281.1            | EST_HUMAN               | 601433525F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3897457 5'   | 601433525F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3897457 5'   |
| 2253             | 14981           | 27720          | 1.27              | 0.0E+00                              | BE905563.1            | EST_HUMAN               | 601435208F1 NIH_MGC_70 Homo sapiens cDNA clone IMAGE:3897457 5'   | 601435208F1 NIH_MGC_70 Homo sapiens cDNA clone IMAGE:3897457 5'   |
| 2253             | 14981           | 27721          | 1.27              | 0.0E+00                              | BE905563.1            | EST_HUMAN               | Hom sapiens mRNA for KIAA1363 protein, partial cds  | Hom sapiens mRNA for KIAA1363 protein, partial cds  |
| 2258             | 14983           | 27723          | 2.35              | 0.0E+00                              | AB0937784.1           | NT                      | Hom sapiens differentially expressed in FDCP (mouse homodog) 8 (DEEF8), mRNA  | Hom sapiens differentially expressed in FDCP (mouse homodog) 8 (DEEF8), mRNA  |
| 2259             | 15024           | 27759          | 4.02              | 0.0E+00                              | 11545748              | NT                      | Hom sapiens differentially expressed in FDCP (mouse homodog) 8 (DEEF8), mRNA  | Hom sapiens differentially expressed in FDCP (mouse homodog) 8 (DEEF8), mRNA  |
| 2259             | 15024           | 27760          | 4.02              | 0.0E+00                              | 11545748              | NT                      | Hom sapiens cDNA clone IMAGE:1674823 3'   | Hom sapiens cDNA clone IMAGE:1674823 3'   |
| 2300             | 15025           | 27761          | 1.87              | 0.0E+00                              | AI076404.1            | EST_HUMAN               | aa09c07.21 Soares_fetal liver spleen, fetal liver spleen, total fetus, NB21F8_3w Homo sapiens cDNA clone IMAGE:756740 5'                                  | aa09c07.21 Soares_fetal liver spleen, fetal liver spleen, total fetus, NB21F8_3w Homo sapiens cDNA clone IMAGE:756740 5'                                  |
| 2302             | 15027           | 27763          | 2.33              | 0.0E+00                              | AA429801.1            | EST_HUMAN               | ZV7811.11 Soares_total fetus, NB21F8_3w Homo sapiens cDNA clone IMAGE:4157339 5'  | ZV7811.11 Soares_total fetus, NB21F8_3w Homo sapiens cDNA clone IMAGE:4157339 5'  |
| 2302             | 15027           | 27764          | 2.33              | 0.0E+00                              | AA429801.1            | EST_HUMAN               | 602021846F1 NCI_CGAP_Breast Homo sapiens cDNA clone IMAGE:4157339 5'  | 602021846F1 NCI_CGAP_Breast Homo sapiens cDNA clone IMAGE:4157339 5'  |
| 2304             | 15029           | 27766          | 1.75              | 0.0E+00                              | BF5347039.1           | EST_HUMAN               | Hom sapiens potassium channel Kv2.1 mRNA, complete cds  | Hom sapiens potassium channel Kv2.1 mRNA, complete cds  |
| 2309             | 15034           | 27772          | 1.52              | 0.0E+00                              | LD2840.1              | NT                      | Hom sapiens mRNA for KIAA0810 protein, partial cds  | Hom sapiens mRNA for KIAA0810 protein, partial cds  |
| 2310             | 15035           | 27773          | 1.61              | 0.0E+00                              | AB0202717.1           | NT                      | Hom sapiens mRNA for KIAA0810 protein, partial cds  | Hom sapiens mRNA for KIAA0810 protein, partial cds  |
| 2310             | 15035           | 27774          | 1.61              | 0.0E+00                              | AB0202717.1           | NT                      | Hom sapiens mRNA containing monooxygenase 3 (FMO3), mRNA  | Hom sapiens mRNA containing monooxygenase 3 (FMO3), mRNA  |
| 2311             | 15036           | 27776          | 1.39              | 0.0E+00                              | 6325488               | NT                      | Hom sapiens flavin containing monooxygenase 2 (SFMO2), mRNA   | Hom sapiens flavin containing monooxygenase 2 (SFMO2), mRNA   |
| 2317             | 15042           | 27780          | 1.17              | 0.0E+00                              | BE876095.1            | EST_HUMAN               | KIAA0857 PROTEIN :  | KIAA0857 PROTEIN :  |
| 2320             | 15045           | 27782          | 4.73              | 0.0E+00                              | AF044571.1            | NT                      | Hom sapiens phosphatase kinase alpha subunit (PKHA2) gene, exon 32  | Hom sapiens phosphatase kinase alpha subunit (PKHA2) gene, exon 32  |
| 2321             | 15046           | 27783          | 1.9               | 0.0E+00                              | AI625542.1            | EST_HUMAN               | Y57c08.1 NCI_CGAP_U12 Homo sapiens cDNA clone IMAGE:2283182 3'  | Y57c08.1 NCI_CGAP_U12 Homo sapiens cDNA clone IMAGE:2283182 3'  |
| 2325             | 15050           | 27785          | 1.88              | 0.0E+00                              | 7862401               | NT                      | Hom sapiens KIAA0852 protein (KIAA0852), mRNA   | Hom sapiens KIAA0852 protein (KIAA0852), mRNA   |
| 2325             | 15050           | 27786          | 1.83              | 0.0E+00                              | 7862401               | NT                      | Hom sapiens S100 calcium-binding protein 2 (S100BP2), mRNA  | Hom sapiens S100 calcium-binding protein 2 (S100BP2), mRNA  |
| 2328             | 15053           | 27789          | 1.95              | 0.0E+00                              | 5803178               | NT                      | Hom sapiens sperm specific antigen 2 (SSFA2), mRNA  | Hom sapiens sperm specific antigen 2 (SSFA2), mRNA  |
| 2328             | 15053           | 27790          | 1.85              | 0.0E+00                              | 5803178               | NT                      | Hom sapiens KIAA0218 gene product (KIAA0218), mRNA  | Hom sapiens KIAA0218 gene product (KIAA0218), mRNA  |
| 2334             | 15058           | 27793          | 1.24              | 0.0E+00                              | 7862007               | NT                      |   |   |

**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO. | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit No. | Top Hit Accession No. | Top Hit Database Source                        | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-------------|-----------------------|--|--|
| 2334             | 15058           | 27794          |                   | 1.24                       | 0.0E+00     | 7862007               | NT   | Homo sapiens KIAA0218 gene product (KIAA0218), mRNA  |
| 2348             | 15071           | 27807          |                   | 3.2                        | 0.0E+00     | 5174678               | NT   | Homo sapiens signal regulatory protein, beta, 1 (SIRP-BETA-1) mRNA   |
| 2352             | 15074           | 27811          |                   | 2.39                       | 0.0E+00     | AU131142              | NT2RP3 Homo sapiens cDNA clone NT2RP3002084 5' |  |
| 2353             | 15075           |                |                   | 4.31                       | 0.0E+00     | BE794020.1            | EST HUMAN                                      | 601586843F1 NIH MGC_7 Homo sapiens cDNA clone IMAGE-384-1003 5'  |
| 2354             | 15076           | 27812          |                   | 1.51                       | 0.0E+00     | AW807076.1            | EST HUMAN                                      | MF1-SN00533-120400-002-e04 SN00533 Homo sapiens cDNA   |
| 2355             | 15077           | 27813          |                   | 2.98                       | 0.0E+00     | 7862017               | NT   | Homo sapiens KIAA0244 protein (KIAA0244), mRNA   |
| 2356             | 15078           | 27814          |                   | 2.03                       | 0.0E+00     | 4758497               | NT   | Homo sapiens hexose-6-phosphate dehydrogenase (glucose 1-dehydrogenase) (H6PD), mRNA   |
| 2356             | 15078           | 27815          |                   | 2.03                       | 0.0E+00     | 4758497               | NT   | Homo sapiens hexose-6-phosphate dehydrogenase (glucose 1-dehydrogenase) (H6PD), mRNA   |
| 2357             | 15079           |                |                   | 5.25                       | 0.0E+00     | AF280107.1            | NT   | Homo sapiens cytochrome P450 polypeptide 43 (CYP3A43) gene, partial cds; cytochrome P450 polypeptide 4 (CYP3A4) and cytochrome P450 polypeptide 7 (CYP3A7) genes, complete cds; and cytochrome P450 polypeptide 5 (CYP3A5) gene, partial cds |
| 2359             | 15081           | 27817          |                   | 7.98                       | 0.0E+00     | AU118082.1            | EST HUMAN                                      | AU118082 HEMBA1 Homo sapiens cDNA clone HEMBA1002839 5'  |
| 2359             | 15081           | 27818          |                   | 7.98                       | 0.0E+00     | AU118082.1            | EST HUMAN                                      | AU118082 HEMBA1 Homo sapiens cDNA clone HEMBA1002839 5'  |
| 2359             | 15081           | 27819          |                   | 7.98                       | 0.0E+00     | AU118082.1            | EST HUMAN                                      | AU118082 HEMBA1 Homo sapiens cDNA clone HEMBA1002839 5'  |
| 2360             | 15082           | 27820          |                   | 0.98                       | 0.0E+00     | 89223089              | NT   | Homo sapiens hypothetical protein FLJ20081 (FLJ20081), mRNA  |
| 2377             | 15099           |                |                   | 0.81                       | 0.0E+00     | BE814424.1            | EST HUMAN                                      | MRE-BN0070-0030600-028-d12 BN0070 Homo sapiens cDNA  |
| 2415             | 15136           | 27872          |                   | 1.06                       | 0.0E+00     | AU118582.1            | EST HUMAN                                      | AU118582 HEMBA1 Homo sapiens cDNA clone HEMBA1008155 5'  |
| 2416             | 16137           |                |                   | 3.74                       | 0.0E+00     | A042035.1             | EST HUMAN                                      | cx6092_x1 Scores_NIHMPu_S1 Homo sapiens cDNA clone IMAGE-1660683 3' similar to TR-008682   |
| 2417             | 15138           | 27873          |                   | 0.98                       | 0.0E+00     | 89223620              | NT   | Homo sapiens hypothetical protein FLJ20083 (FLJ20083), mRNA  |
| 2420             | 15141           |                |                   | 4.44                       | 0.0E+00     | BE895605.1            | EST HUMAN                                      | 601432608F1 NIH MGC_72 Homo sapiens cDNA clone IMAGE-3918168 5'  |
| 2424             | 16146           | 27878          |                   | 1                          | 0.0E+00     | BE837632.1            | EST HUMAN                                      | MR1-TN0021-280800-001-H08 TN0021 Homo sapiens cDNA   |
| 2433             | 16154           |                |                   | 0.98                       | 0.0E+00     | AB005622              | EST HUMAN                                      | AB005622 Hela cDNA (T,Normal) Homo sapiens cDNA similar to adenylyl kinase isozyme 2   |
| 2437             | 16157           | 27892          |                   | 4.5                        | 0.0E+00     | 6006002               | NT   | Homo sapiens glutamate receptor, ionotropic, N-methyl D-aspartate 2A (GRIN2A), mRNA  |
| 2441             | 16160           | 27898          |                   | 2.09                       | 0.0E+00     | D85906.1              | NT   | Homo sapiens gene for cholecytokinin type-A receptor, complete cds   |
| 2441             | 16160           | 27897          |                   | 2.09                       | 0.0E+00     | D85906.1              | NT   | Homo sapiens gene for cholecytokinin type-A receptor, complete cds   |
| 2449             | 15168           | 27908          |                   | 1.91                       | 0.0E+00     | AF108275.1            | NT   | Homo sapiens immunoglobulin-like transcript 4 variant 4 (ILT1c) gene, exon 6   |
| 2454             | 15172           | 27911          |                   | 1.22                       | 0.0E+00     | BF346274.1            | EST HUMAN                                      | 602016058F1 NCI CGAP_Bm67 Homo sapiens cDNA clone IMAGE-4153670 5'   |
| 2461             | 15179           | 27919          |                   | 4.45                       | 0.0E+00     | 5726777               | NT   | Homo sapiens collagen, type XI, alpha 1 (COL12A1), mRNA  |
| 2465             | 15183           | 27922          |                   | 1.24                       | 0.0E+00     | BE831003.1            | EST HUMAN                                      | CARD-MT0033-150800-428-H111 MT0033 Homo sapiens cDNA   |
| 2465             | 15183           | 27923          |                   | 1.24                       | 0.0E+00     | BE831003.1            | EST HUMAN                                      | CARD-MT0033-150800-428-H111 MT0033 Homo sapiens cDNA   |
| 2470             | 15188           | 27927          |                   | 0.93                       | 0.0E+00     | U19886.1              | NT   | Human G protein-coupled receptor (GPR1) gene, complete cds   |
| 2470             | 15188           | 27928          |                   | 0.93                       | 0.0E+00     | U19886.1              | NT   | Human G protein-coupled receptor (GPR1) gene, complete cds   |
| 2471             | 15189           | 27929          |                   | 2.98                       | 0.0E+00     | BF588144.1            | EST HUMAN                                      | 60218455871 NIH MGC_42 Homo sapiens cDNA clone IMAGE-4300383 3'  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO. | Exon SEQ ID NO. | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLASTE Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor  |   |
|------------------|-----------------|----------------|-------------------|-------------------------------------|-----------------------|---|---|---|
|                  |                 |                |                   |                                     |                       |   | Top Hit   | Descriptor  |
| 2482             | 15200           | 27940          | 3.34              | 0.0E+00                             | AW468922.1            | EST_HUMAN   | hsa0404.x1_NCI_OGAP_Kid12_Homo sapiens cDNA clone IMAGE:2872759 3'                  |   |
| 2482             | 15202           | 27941          | 2.86              | 0.0E+00                             | AW501010.1            | EST_HUMAN   | U-HFBP0p-dis-o-07-0-Ul1 NIH_MGC_51_Homo sapiens cDNA clone IMAGE:3072780 5'         |   |
| 2484             | 15215           | 27958          | 0.91              | 0.0E+00                             | 54539685_NT           | Homo sapiens protein kinase, AMP-activated, alpha 2 catalytic subunit (PRKAA2) mRNA | Homo sapiens protein kinase, AMP-activated, alpha 2 catalytic subunit (PRKAA2) mRNA |   |
| 2488             | 15215           | 27959          | 0.81              | 0.0E+00                             | 54539865_NT           | Homo sapiens protein kinase, AMP-activated, alpha 2 catalytic subunit (PRKAA2) mRNA | Homo sapiens protein kinase, AMP-activated, alpha 2 catalytic subunit (PRKAA2) mRNA |   |
| 2509             | 16226           |                | 1.68              | 0.0E+00                             | AW813853.1            | EST_HUMAN   | RC3-ST0197-300306-016-004_ST0197_Homo sapiens cDNA IMAGE:3046518 6'                 |   |
| 2514             | 15231           | 27971          | 6.22              | 0.0E+00                             | BE795542.1            | EST_HUMAN   | 601682530F1_NIH_MGC_7_Homo sapiens cDNA clone IMAGE:30868335 3'                     |   |
| 2515             | 14668           | 27383          | 1.4               | 0.0E+00                             | 7657038_NT            | Homo sapiens death receptor 6 (DR6), mRNA   | Homo sapiens death receptor 6 (DR6), mRNA   |   |
| 2516             | 15232           | 27972          | 1.48              | 0.0E+00                             | BF509482.1            | EST_HUMAN   | U1-H314-eoz-b-08-Ul_31_NCI_OGAP_Sub3_Homo sapiens cDNA clone IMAGE:30868336 3'      |   |
| 2518             | 15234           | 27974          | 1.83              | 0.0E+00                             | Z32684.2              | NT  | Homo sapiens mRNA for membrane transport protein (X gene)                           | Homo sapiens mRNA for membrane transport protein (X gene) |
| 2520             | 15236           |                | 3.28              | 0.0E+00                             | 5453971_NT            | Homo sapiens platelet-derived growth factor receptor-like (PDGFRL) mRNA             | Homo sapiens platelet-derived growth factor receptor-like (PDGFRL) mRNA             |   |
| 2522             | 15238           | 27977          | 1.3               | 0.0E+00                             | BERH0378.1            | EST_HUMAN   | 601503356F1_NIH_MGC_70_Homo sapiens cDNA clone IMAGE:3012117 mRNA                   |   |
| 2523             | 15239           | 27978          | 1.98              | 0.0E+00                             | 7657488_NT            | Homo sapiens similar to rat integral membrane glycoprotein POMT21 (POMT21) mRNA     | Homo sapiens similar to rat integral membrane glycoprotein POMT21 (POMT21) mRNA     |   |
| 2524             | 15240           | 27979          | 2.01              | 0.0E+00                             | 8923340_NT            | Human Sec62 (Sec62) mRNA, complete cds  | Human Sec62 (Sec62) mRNA, complete cds  |   |
| 2525             | 15241           | 27980          | 2.21              | 0.0E+00                             | UR92239.1             | EST_HUMAN   | 6015032211F1_NIH_MGC_71_Homo sapiens cDNA clone IMAGE:39039886 5'                   |   |
| 2530             | 15246           | 27984          | 1.44              | 0.0E+00                             | BE88490.1             | EST_HUMAN   | 6014892241F1_NIH_MGC_69_Homo sapiens cDNA clone IMAGE:3891371 5'                    |   |
| 2534             | 15249           | 27989          | 5.16              | 0.0E+00                             | BE876511.1            | EST_HUMAN   | 6014892241F1_NIH_MGC_69_Homo sapiens cDNA clone IMAGE:3891371 5'                    |   |
| 2534             | 15249           | 27980          | 6.16              | 0.0E+00                             | BE875511.1            | EST_HUMAN   | 6014892241F1_NIH_MGC_69_Homo sapiens cDNA clone IMAGE:3891371 5'                    |   |
| 2536             | 15251           | 27983          | 1.19              | 0.0E+00                             | AF245505.1            | NT  | Homo sapiens adican mRNA, complete cds  | Homo sapiens adican mRNA, complete cds                    |
| 2536             | 15251           |                | 1.2               | 0.0E+00                             | BE536822.1            | EST_HUMAN   | 601064738F1_NIH_MGC_10_Homo sapiens cDNA clone IMAGE:3451161 5'                     |   |
| 2534             | 15269           | 28002          | 2.97              | 0.0E+00                             | AU143277.1            | EST_HUMAN   | AU143277_Y79A1_Homo sapiens cDNA clone Y79A1_001673 5'                              |   |
| 2561             | 15275           | 28012          | 2.97              | 0.0E+00                             | AU143277.1            | EST_HUMAN   | AU143277_Y79A1_Homo sapiens cDNA clone Y79A1_001673 5'                              |   |
| 2561             | 15276           | 28013          | 2.97              | 0.0E+00                             | BE282898.1            | EST_HUMAN   | 601105312F1_NIH_MGC_15_Homo sapiens cDNA clone IMAGE:2887865 5'                     |   |
| 2562             | 15276           | 28014          | 1.8               | 0.0E+00                             | BE282898.1            | EST_HUMAN   | 601105312F1_NIH_MGC_15_Homo sapiens cDNA clone IMAGE:2887865 5'                     |   |
| 2562             | 15278           | 28015          | 1.8               | 0.0E+00                             | BE282898.1            |   | 7q2712X1_NCI_OGAP_G28_Homo sapiens cDNA clone IMAGE:3020246 000248                  |   |
| 2563             | 16277           | 28016          | 1.07              | 0.0E+00                             | BF223041.1            | EST_HUMAN   | HYPOTHETICAL 9.3 KD PROTEIN;  |   |
| 2563             | 15280           | 28018          | 7.94              | 0.0E+00                             | AF245505.1            | NT  | Homo sapiens adican mRNA, complete cds  | Homo sapiens adican mRNA, complete cds                    |
| 2568             | 15303           | 28039          | 2.22              | 0.0E+00                             | BE226613.1            | EST_HUMAN   | 601173831F1_NIH_MGC_17_Homo sapiens cDNA clone IMAGE:3528159 5'                     |   |
| 2806             | 15531           | 28050          | 2.13              | 0.0E+00                             | AB037836.1            | NT  | Homo sapiens mRNA for KIAA1415 protein, partial cds                                 | Homo sapiens mRNA for KIAA1415 protein, partial cds       |
| 2606             | 15531           | 28061          | 2.13              | 0.0E+00                             | AB037836.1            | EST_HUMAN   | UH-BW1-amp-f-12-Ul_s1_NCI_CGAP_Sub7_Homo sapiens cDNA clone IMAGE:3070881 3'        |   |
| 2807             | 15319           |                | 2.47              | 0.0E+00                             | BF513835.1            | EST_HUMAN   | UH-BW1-amp-f-12-Ul_s1_NCI_CGAP_Sub7_Homo sapiens cDNA clone IMAGE:3070881 3'        |   |
| 2911             | 15323           | 28085          | 1.36              | 0.0E+00                             | BF672818.1            | EST_HUMAN   | 601868073F1_NIH_MGC_17_Homo sapiens cDNA clone IMAGE:4111411 5'                     |   |
| 2615             | 15326           | 28089          | 1.83              | 0.0E+00                             | BF204131.1            | EST_HUMAN   | 601868073F1_NIH_MGC_17_Homo sapiens cDNA clone IMAGE:4111411 5'                     |   |
| 2615             | 15326           | 28070          | 1.83              | 0.0E+00                             | BF204131.1            | EST_HUMAN   | 601868073F1_NIH_MGC_17_Homo sapiens cDNA clone IMAGE:4111411 5'                     |   |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|---|
| 2618 15329       | 28072           |                |                   | 0.0E+00 A1571737.1                   | EST_HUMAN             | ln19b08_x1 NCI CGAP_Bm25 Homo sapiens cDNA clone IMAGE:2168055 3' similar to gbl_20877 CALCIUM-TRANSPORTING ATPASE PLASMA MEMBRANE, BRAIN ISOFORM 2 (HUMAN); Homo sapiens TATA box binding protein (TBP)-associated factor, RNA polymerase II, 2A&D (TAF2) | mRNA  |
| 2619 15330       | 28073           |                |                   | 2.19 0.0E+00                         | 5032150 NT            | Homo sapiens mRNA for KIAA1438 protein, partial cds  | Homologous to IMAGE:3944304 5'  |
| 2621 15333       | 28077           |                |                   | 4.95 0.0E+00                         | AB837859.1 NT         | Homo sapiens cDNA clone IMAGE:3944304 5'   | Homologous to IMAGE:3944304 5'  |
| 2622 15334       | 28078           |                |                   | 1.02 0.0E+00                         | BE785445.1 EST_HUMAN  | 6011680108F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:3056389 5'  | Homologous to IMAGE:3056389 5'  |
| 2622 15334       | 28079           |                |                   | 1.02 0.0E+00                         | BE785445.1 EST_HUMAN  | 6011680108F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:3056389 5'  | Homologous to IMAGE:3056389 5'  |
| 2625 15337       | 28080           |                |                   | 2.65 0.0E+00                         | BE283328.1 EST_HUMAN  | 6011143722F1 NIH_MGC_15 Homo sapiens cDNA clone IMAGE:3833222 5'   | Homologous to IMAGE:3833222 5'  |
| 2632 15344       |                 |                |                   | 4.92 0.0E+00                         | BE782472.1 EST_HUMAN  | 6011680830F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:3056389 5'  | Homologous to IMAGE:3056389 5'  |
| 2841 15352       | 28088           |                |                   | 1.61 0.0E+00                         | 4504886 NT            | Homo sapiens IMP (inosine monophosphate) dehydrogenase 1 (IMPDH1) mRNA   | Homologous to IMP (inosine monophosphate) dehydrogenase 1 (IMPDH1) mRNA |
| 2851 15361       |                 |                |                   | 1.27 0.0E+00                         | U78027.1 NT           | Homo sapiens Bruton's tyrosine kinase (BTK), alpha-D-galactosidase A (GLA), L44-like ribosomal protein (L44), and FTP3 (FTP3) genes, complete cds  | Homologous to BTK gene, exon 1  |
| 2852 15362       | 28103           |                |                   | 6.65 0.0E+00                         | AF173227.1 NT         | Homo sapiens guanylyl cyclase-activating protein 2 (GUCAT1B) gene, exon 1  | Homologous to GUCAT1B gene, exon 1                                      |
| 2853 15368       | 28106           |                |                   | 1.22 0.0E+00                         | AU133385.1 EST_HUMAN  | AU133385 NT2RP4 Homo sapiens cDNA clone NT2RP4001984 5'  | Homologous to NT2RP4001984 5'   |
| 2859 15369       | 28107           |                |                   | 1.08 0.0E+00                         | IM89225.1 NT          | Human bulbus pamphigoid antigen (BPAg1) mRNA, complete cds   | Homologous to BPAg1 mRNA, complete cds                                  |
| 2861 15371       | 28109           |                |                   | 2.22 0.0E+00                         | AU130403.1 EST_HUMAN  | AU130403 NT2RP3 Homo sapiens cDNA clone NT2RP3000779 5'  | Homologous to NT2RP3000779 5'   |
| 2861 15371       | 28110           |                |                   | 2.22 0.0E+00                         | AU130403.1 EST_HUMAN  | AU130403 NT2RP3 Homo sapiens cDNA clone NT2RP3000779 5'  | Homologous to NT2RP3000779 5'   |
| 2863 15373       | 28112           |                |                   | 1.71 0.0E+00                         | AW887015.1 EST_HUMAN  | RC1-OT0088-220300-011-d07 OT0088 Homo sapiens cDNA RC1-OT0088-220300-011-d07   | Homologous to RC1-OT0088-220300-011-d07                                 |
| 2868 15376       | 28115           |                |                   | 1.26 0.0E+00                         | BF0000018.1 EST_HUMAN | 7M6h05_x1 NCI CGAP_Co18 Homo sapiens cDNA clone IMAGE:33160589 3'  | Homologous to IMAGE:33160589 3'   |
| 2867 15377       | 28116           |                |                   | 4.37 0.0E+00                         | BE383165.1 EST_HUMAN  | 601298714F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:36228923 5'   | Homologous to IMAGE:36228923 5'   |
| 2868 15378       |                 |                |                   | 2.57 0.0E+00                         | BE531283.1 EST_HUMAN  | 601278373F1 NIH_MGC_39 Homo sapiens cDNA clone IMAGE:36102657 5'   | Homologous to IMAGE:36102657 5'   |
|                  |                 |                |                   |                                      |                       | EST188414 HCC cell line (metastasis to liver in mouse)    Homo sapiens cDNA 5' end similar to ribosomal protein L28  | Homologous to ribosomal protein L28                                     |
| 2725 15432       |                 |                |                   | 4.21 0.0E+00                         | AA316723.1 EST_HUMAN  | 6011680825F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:3943581 5'  | Homologous to IMAGE:3943581 5'  |
| 2726 15433       | 28169           |                |                   | 5.57 0.0E+00                         | BE794884.1 NT         | Human beta-prime-adaptin (BAP22) gene, exon 5  | Homologous to BAP22 gene, exon 5  |
| 2732 15439       | 28177           |                |                   | 3.63 0.0E+00                         | U36253.1 NT           | Human neuregulin 1 (NRG1), transcript variant SMDF, mRNA   | Homologous to NRG1, transcript variant SMDF, mRNA                       |
| 2733 15440       | 28178           |                |                   | 1.33 0.0E+00                         | 7668357 NT            | Homo sapiens skeletal muscle LM-protein 1 (FLIL1) gene, complete cds   | Homologous to FLIL1 gene, complete cds                                  |
| 2734 15441       | 28179           |                |                   | 1.78 0.0E+00                         | AF110783.1 NT         | Homo sapiens MG28K mRNA for GTP-binding protein like 1, complete cds   | Homologous to MG28K mRNA for GTP-binding protein like 1, complete cds   |
| 2736 15443       | 28181           |                |                   | 1.27 0.0E+00                         | AB051828.1 EST_HUMAN  | 601168081F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:3945983 5'   | Homologous to IMAGE:3945983 5'  |
| 2742 15448       | 28187           |                |                   | 7.77 0.0E+00                         | BE798378.1 EST_HUMAN  | 6011335485F1 NIH_MGC_39 Homo sapiens cDNA clone IMAGE:36889584 5'  | Homologous to IMAGE:36889584 5'   |
| 2745 15604       | 28191           |                |                   | 3.48 0.0E+00                         | BE563433.1 EST_HUMAN  | AV721647 HTB Homo sapiens cDNA clone HTBBYE09 5'   | Homologous to HTBBYE09 5'   |
| 2746 15451       |                 |                |                   | 1.16 0.0E+00                         | AV721647.1 EST_HUMAN  | Homo sapiens spermatogenesis associated PD1 (KIAA0757) mRNA  | Homologous to KIAA0757 mRNA   |
| 2748 15453       | 28194           |                |                   | 2.25 0.0E+00                         | 5174486 NT            | Homo sapiens spermatogenesis associated PD1 (KIAA0757) mRNA  | Homologous to KIAA0757 mRNA   |
| 2748 15453       | 28195           |                |                   | 2.25 0.0E+00                         | 5174486 NT            | Homo sapiens hypothetical protein FLJ20477 (FLJ20477) mRNA   | Homologous to FLJ20477 (FLJ20477) mRNA                                  |
| 2749 15454       | 28196           |                |                   | 1.21 0.0E+00                         | 8923441 NT            |  |   |

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## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 2749             | 15454           | 28197          | 1.21              | 0.0E+00                              | 8923441               | NT                      | Homo sapiens hypothetical protein FLJ20477 (FLJ20477), mRNA   |
| 2750             | 15455           | 28198          | 2.5               | 0.0E+00                              | AF280195.1            | NT                      | Homo sapiens hypertension-related calcium-regulated gene mRNA, complete cds   |
| 2751             | 15456           |                | 13.89             | 0.0E+00                              | AY651088              | EST HUMAN               | AV651088 GLC Homo sapiens cDNA clone GLCQCD073'   |
| 2752             | 15457           | 28199          | 3.13              | 0.0E+00                              | BF377987.1            | EST HUMAN               | CMU-TN0141-260500-439-b08 TN0141 Homo sapiens cDNA  |
| 2752             | 15457           | 28200          | 3.13              | 0.0E+00                              | BF377987.1            | EST HUMAN               | CMU-TN0141-250500-439-b08 TN0141 Homo sapiens cDNA  |
| 2756             | 15461           | 28203          | 33.8              | 0.0E+00                              | 4757983               | NT                      | Homo sapiens cerebellar degeneration-related protein (34kD) (CDR1) mRNA   |
| 2758             | 15461           | 28204          | 33.8              | 0.0E+00                              | 4757983               | NT                      | Homo sapiens cerebellar degeneration-related protein (34kD) (CDR1) mRNA   |
| 2760             | 15465           | 28209          | 2.58              | 0.0E+00                              | BE747182.1            | EST HUMAN               | 601563090374 NIH_MGC_81 Homo sapiens cDNA clone IMAGE:3928472.5'  |
| 2771             | 15478           |                | 1.15              | 0.0E+00                              | AL163201.2            | NT                      | Homo sapiens chromosome 21 segment HS21C001   |
| 2772             | 15477           | 28210          | 3.36              | 0.0E+00                              | BF514110.1            | EST HUMAN               | UH-BW1-emu-e-07-0-U1 s1 NCI_CGAP_Sub7 Homo sapiens cDNA clone IMAGE:3071340.3'  |
| 2778             | 15483           |                | 0.89              | 0.0E+00                              | 4503098               | NT                      | Homo sapiens chondroitin sulfate proteoglycan 4 (melanoma-associated) (CSPG4), mRNA   |
| 2784             | 15489           | 28227          | .21               | 0.0E+00                              | 7705275               | NT                      | Homo sapiens angiopoietin-3 (ANG-3), mRNA   |
| 2784             | 15489           | 28228          | 2.1               | 0.0E+00                              | 7705275               | NT                      | Homo sapiens angiopoietin-3 (ANG-3), mRNA   |
| 2785             | 15490           | 28229          | 4.67              | 0.0E+00                              | BF877884.1            | EST HUMAN               | 602085578741 NIH_MGC_83 Homo sapiens cDNA clone IMAGE:4249916.5'  |
| 2781             | 15498           | 28237          | 1.75              | 0.0E+00                              | 7427522               | NT                      | Homo sapiens protein tyrosine phosphatase, receptor type, T (PTPRT), mRNA   |
| 2784             | 15499           | 28239          | 13.56             | 0.0E+00                              | AT725534.1            | EST HUMAN               | AT725534 HTC Homo sapiens cDNA clone HTGCCA03.5'  |
| 2784             | 15499           | 28240          | 13.56             | 0.0E+00                              | AT725534.1            | EST HUMAN               | AT725534 HTC Homo sapiens cDNA clone HTGCCA03.5'  |
| 2798             | 15501           |                | 7.61              | 0.0E+00                              | AB78163.1             | EST HUMAN               | au56304.y1 Schmidauer fetal brain 00004 Homo sapiens cDNA clone IMAGE:25188635 similar to SWR13A_HUMAN P40420 80S RIBOSOMAL PROTEIN L13A;     |
| 2799             | 15504           | 28245          | 5.41              | 0.0E+00                              | BF580861.1            | EST HUMAN               | 602071857F1 NCI_CGAP_Bm87 Homo sapiens cDNA clone IMAGE:4214679.5'  |
| 2800             | 15505           | 28246          | 5.55              | 0.0E+00                              | BE872788.1            | EST HUMAN               | 601450912F1 NIH_MGC_85 Homo sapiens cDNA clone IMAGE:3834642.5'   |
| 2802             | 15507           | 28247          | 1.8               | 0.0E+00                              | AUJ131494.1           | EST HUMAN               | AUJ131494 NT25F3 Homo sapiens cDNA clone NT25F3-2672.5'   |
| 2802             | 15507           | 28248          | 1.8               | 0.0E+00                              | AUJ131494.1           | EST HUMAN               | AUJ131494 NT25F3 Homo sapiens cDNA clone NT25F3-2672.5'   |
| 2803             | 15508           | 28249          | 20.25             | 0.0E+00                              | BF300344.1            | EST HUMAN               | 600844784F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:28600806.5'  |
| 2803             | 15508           | 28250          | 20.25             | 0.0E+00                              | BF300344.1            | EST HUMAN               | 600844784F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:28600806.5'  |
| 2809             | 12395           | 25634          | 4.22              | 0.0E+00                              | ST76830.1             | NT                      | glycoprotein D=Duffy group antigen [human, blood, genomic DNA, 3058 nt]   |
| 2812             | 15515           |                | 4.35              | 0.0E+00                              | AB033281.1            | NT                      | Homo sapiens BTTRCP2 mRNA for F-box and WD-repeats protein Isafarm C, complete cds  |
| 2818             | 13491           | 28144          | 8.39              | 0.0E+00                              | AF284750.1            | NT                      | Homo sapiens ALR-like protein mRNA, partial cds   |
| 2818             | 13491           | 28145          | 8.39              | 0.0E+00                              | AF284750.1            | NT                      | Homo sapiens ALR-like protein mRNA, partial cds   |
| 2822             | 13776           | 28438          | 3.52              | 0.0E+00                              | 4503202               | NT                      | Homo sapiens cytochrome P450, subfamily 1 (diethyldihydroxyacetone-inducible), polypeptide 1 (glutathione S, primary infantile) (CYP1B1) mRNA |
| 2840             | 15608           | 28258          | 3.52              | 0.0E+00                              | X65980.1              | NT                      | H.sapiens serine hydroxymethyltransferase pseudogene  |

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## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-------------------------|-----------------------|-------------------------|--|
| 2841             | 15609           |                |                   | 1.34                       | 0.0E+00                 | AF068824.1            | NT                      | Homo sapiens 5'-aminolevulinate synthase 2 (ALAS2) gene, complete cds  |
| 2843             | 15611           |                |                   | 1.22                       | 0.0E+00                 | AB040880.1            | NT                      | Homo sapiens mRNA for KIAA1527 protein, partial cds  |
| 2849             | 15617           | 28263          |                   | 2.61                       | 0.0E+00                 | AL163201.2            | NT                      | Homo sapiens chromosome 21 segment HS21C001  |
| 2852             | 15620           | 28285          |                   | 2.63                       | 0.0E+00                 | M91803.1              | NT                      | Human sodium channel mRNA  |
| 2854             | 15622           | 28267          |                   | 1.94                       | 0.0E+00                 | M80902.1              | NT                      | Human AHNAK nucleoprotein mRNA, 5' end   |
| 2857             | 15625           | 28289          |                   | 1.29                       | 0.0E+00                 | BE154504.1            | EST_HUMAN               | PM0-HT0343-281299-003-a022 HT0343 Homo sapiens cDNA  |
| 2857             | 15625           | 28270          |                   | 1.29                       | 0.0E+00                 | BE154504.1            | EST_HUMAN               | PM0-HT0343-281299-003-a022 HT0343 Homo sapiens cDNA  |
| 2859             | 15627           |                |                   | 1.18                       | 0.0E+00                 | X73428.1              | NT                      | H.sapiens lds gene for HLH type transcription factor   |
| 2860             | 15628           |                |                   | 2.59                       | 0.0E+00                 | AL163268.2            | NT                      | Homo sapiens chromosome 21 segment HS21C068  |
| 2861             | 15629           | 28272          |                   | 1.03                       | 0.0E+00                 | 7019584               | NT                      | Homo sapiens zinc finger protein 221 (ZNF221), mRNA  |
| 2861             | 15629           | 28273          |                   | 1.03                       | 0.0E+00                 | 7019584               | NT                      | Homo sapiens zinc finger protein 221 (ZNF221), mRNA  |
| 2861             | 15629           | 28274          |                   | 1.03                       | 0.0E+00                 | 7019584               | NT                      | Homo sapiens zinc finger protein 221 (ZNF221), mRNA  |
| 2866             | 15633           | 28277          |                   | 18.48                      | 0.0E+00                 | D50857.1              | NT                      | Homo sapiens gamma-cytoplasmic actin (ACTGP3) pseudogene   |
| 2868             | 15633           | 28278          |                   | 18.48                      | 0.0E+00                 | D50857.1              | NT                      | Homo sapiens gamma-cytoplasmic actin (ACTGP3) pseudogene   |
| 2869             | 15636           | 28281          |                   | 1.69                       | 0.0E+00                 | AL088837.1            | NT                      | Novel human mRNA from chromosome 1, which has similarities to BAT2 genes   |
| 2870             | 15637           |                |                   | 7.2                        | 0.0E+00                 | Y10858.1              | NT                      | H.sapiens mRNA for nuclear DNA helicase II   |
| 2871             | 15638           |                |                   | 1.42                       | 0.0E+00                 | AF152303.1            | NT                      | Homo sapiens procathepsin alpha C1 (PCDH-alpha-C1) mRNA, complete cds  |
| 2872             | 15639           | 28282          |                   | 47.87                      | 0.0E+00                 | 4503470               | NT                      | Homo sapiens eukaryotic translation elongation factor 1 alpha 1 (EEF1A1) mRNA                                    |
| 2872             | 15639           | 28283          |                   | 47.87                      | 0.0E+00                 | 4503470               | NT                      | Homo sapiens eukaryotic translation elongation factor 1 alpha 1 (EEF1A1) mRNA                                    |
| 2882             | 15649           | 28292          |                   | 2.36                       | 0.0E+00                 | 4507280               | NT                      | Homo sapiens serine/threonine kinase 9 (STK9) mRNA   |
| 2885             | 15652           | 28286          |                   | 1.06                       | 0.0E+00                 | AL047588.1            | EST_HUMAN               | DKF-458630821_11586 (synonym: hntf) Homo sapiens cDNA clone DKF2p58830821  |
| 2886             | 15653           | 28287          |                   | 0.97                       | 0.0E+00                 | 7081883               | NT                      | Homo sapiens KIAA0054 gene product; Helicase (KIAA0054), mRNA  |
| 2886             | 15653           | 28293          |                   | 0.97                       | 0.0E+00                 | 7081883               | NT                      | Homo sapiens KIAA0054 gene product; Helicase (KIAA0054), mRNA  |
| 2887             | 15654           |                |                   | 2.96                       | 0.0E+00                 | 4503098               | NT                      | Homo sapiens chondroitin sulfate proteoglycan 4 (melanoma-associated) (CSPG4), mRNA                              |
| 2890             | 15657           | 28300          |                   | 5.48                       | 0.0E+00                 | BE081888.1            | EST_HUMAN               | QV2-BT0638-130400-138-h03 BT0638 Homo sapiens cDNA   |
| 2890             | 15657           | 28301          |                   | 5.46                       | 0.0E+00                 | BE081888.1            | EST_HUMAN               | QV2-BT0636-130400-138-h03 BT0638 Homo sapiens cDNA   |
| 2897             | 15664           | 28312          |                   | 2.09                       | 0.0E+00                 | AL163206.2            | NT                      | Homo sapiens chromosome 21 segment HS21C008  |
| 2897             | 15664           | 28313          |                   | 2.09                       | 0.0E+00                 | AL163206.2            | NT                      | Homo sapiens chromosome 21 segment HS21C008  |
| 2905             | 15671           |                |                   | 4.18                       | 0.0E+00                 | Y182210.1             | NT                      | Homo sapiens Hb5 gene for hair keratin, exons 1 to 9   |
| 2907             | 15673           | 28321          |                   | 1.33                       | 0.0E+00                 | 4758279               | NT                      | Homo sapiens EphA4 (EPHA4) mRNA  |
| 2908             | 15674           | 28322          |                   | 20.94                      | 0.0E+00                 | 4503470               | NT                      | Homo sapiens eukaryotic translation elongation factor 1 alpha 1 (EEF1A1) mRNA                                    |
| 2909             | 15676           | 28323          |                   | 1.91                       | 0.0E+00                 | AL081002.1            | EST_HUMAN               | tn18d07_x1 NCL_CGAP_Bm26 Homo sapiens cDNA clone IMAGE:2167981 3' similar to TR:O16247 O16247 F44E7 2 PROTEIN. : |

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Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 2809             | 15675           | 28324          | 1.91              | 0.0E+00                              | AI561002.1            | EST_HUMAN               | IMAGE:2167881 3' similar to TR:O16247  |
| 2811             | 15677           | 28326          | 1.63              | 0.0E+00                              | PF2740                | SWISSPROT               | ZINC FINGER PROTEIN 132  |
| 2812             | 15678           | 28327          | 2.01              | 0.0E+00                              | AF152338.1            | NT                      | Human sapiens protocadherin gamma C4 (PCDH-gamma-C4) mRNA, complete cds  |
| 2828             | 15684           | 28339          | 1.82              | 0.0E+00                              | AB0633038.1           | NT                      | Human sapiens mRNA for KIAA1287 protein, partial cds   |
| 2828             | 15684           | 28340          | 1.92              | 0.0E+00                              | AB0633038.1           | NT                      | Human sapiens mRNA for KIAA1287 protein, partial cds   |
| 2829             | 15685           | 28341          | 4.56              | 0.0E+00                              | AB040944.1            | NT                      | Human sapiens mRNA for KIAA1608 protein, partial cds   |
| 2829             | 15685           | 28342          | 4.56              | 0.0E+00                              | AB040944.1            | NT                      | Human sapiens mRNA for KIAA1608 protein, partial cds   |
| 2832             | 15688           | 28345          | 3.98              | 0.0E+00                              | 7681903               | NT                      | Human sapiens KIAA0100 gene product (KIAA0100), mRNA   |
| 2832             | 15688           | 28346          | 3.98              | 0.0E+00                              | 7681903               | NT                      | Human sapiens KIAA0100 gene product (KIAA0100), mRNA   |
| 2833             | 15689           | 28347          | 3.21              | 0.0E+00                              | 5174574               | NT                      | Human sapiens myeloid/lymphoid or mixed-lineage leukemia (trithorax (Drosophila) homolog); translocated to, 4 (MLLT4) mRNA |
| 2833             | 15689           | 28348          | 3.21              | 0.0E+00                              | 5174574               | NT                      | Human sapiens myeloid/lymphoid or mixed-lineage leukemia (trithorax (Drosophila) homolog); translocated to, 4 (MLLT4) mRNA |
| 2838             | 15703           | 28352          | 1.16              | 0.0E+00                              | BF110702.1            | EST_HUMAN               | IMAGE:3557028 3' similar to TR:Q8VN1   |
| 2838             | 15703           | 28353          | 1.16              | 0.0E+00                              | BF110702.1            | EST_HUMAN               | IMAGE:3557028 3' similar to TR:Q8VN1   |
| 2846             | 15712           | 28364          | 2.15              | 0.0E+00                              | 4505084               | NT                      | Human sapiens melanoma antigen, family B, 4 (MAGEB4), mRNA   |
| 2846             | 15712           | 28365          | 2.15              | 0.0E+00                              | 4505084               | NT                      | Human sapiens melanoma antigen, family B, 4 (MAGEB4), mRNA   |
| 2853             | 15719           | 28370          | 1.69              | 0.0E+00                              | 4758327               | NT                      | Human sapiens neutrophil III (NRXNS) mRNA  |
| 2854             | 15720           |                | 0.98              | 0.0E+00                              | X88494.1              | NT                      | H. sapiens mRNA for M phases phosphoprotein 10   |
| 2857             | 15723           | 28373          | 2.38              | 0.0E+00                              | AB033034.1            | NT                      | Human sapiens mRNA for KIAA1208 protein, partial cds   |
| 2858             | 15724           | 28374          | 5.96              | 0.0E+00                              | X15309.1              | NT                      | H. sapiens NF-H gene, exon 4   |
| 2858             | 15724           | 28376          | 6.96              | 0.0E+00                              | X15309.1              | NT                      | H. sapiens NF-H gene, exon 4   |
| 2859             | 15725           | 28376          | 7.84              | 0.0E+00                              | AF106275.1            | NT                      | Human sapiens immunoglobulin-like transcript 1c variant 4 (ILT1c) gene, exon 6   |
| 2973             | 15739           |                | 1.13              | 0.0E+00                              | AI149880.1            | EST_HUMAN               | Q93FC0.1 Scarecs_bsells_NHT Human sapiens cDNA clone IMAGE:1762809 3'  |
| 2980             | 15746           | 28394          | 1.12              | 0.0E+00                              | 4506118               | NT                      | Human sapiens prospero-related homeobox 1 (PROXI) mRNA   |
| 2981             | 15747           | 28395          | 2.85              | 0.0E+00                              | AB004894.1            | NT                      | Human sapiens mRNA for PKU-alpha, partial cds  |
| 2981             | 15757           | 28404          | 1.52              | 0.0E+00                              | 7662273               | NT                      | Human sapiens KIAA0737 gene product (KIAA0737), mRNA   |
| 2983             | 15759           | 28406          | 3.75              | 0.0E+00                              | 5729755               | NT                      | Human sapiens calcium channel, voltage-dependent, gamma subunit 3 (CACNG3), mRNA   |
| 2983             | 15759           | 28407          | 3.75              | 0.0E+00                              | 5729756               | NT                      | Human sapiens calcium channel, voltage-dependent, gamma subunit 3 (CACNG3), mRNA   |
| 2987             | 15763           | 28412          | 1.1               | 0.0E+00                              | AB037852.1            | NT                      | Human sapiens mRNA for KIAA1431 protein, partial cds   |
| 3025             | 15791           | 28439          | 1.17              | 0.0E+00                              | M74099.1              | NT                      | Human displacement protein (CCAAAT) mRNA   |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 3039             | 15799           | 28445          | 0.71              | 0.0E+00                              | 4505882               | NT                      | Homo sapiens semenogelin 1 (SEMG1) mRNA   |
| 3039             | 15805           |                | 4.62              | 0.0E+00                              | AF185633.1            | NT                      | Homo sapiens membrane-bound aminopeptidase P (XNPPEP2) gene, complete cds   |
| 3042             | 15808           | 28454          | 3.74              | 0.0E+00                              | 5570469               | NT                      | Homo sapiens heat shock 70kD protein 1 (HSP70A), mRNA   |
| 3042             | 15808           | 28455          | 3.74              | 0.0E+00                              | 5570469               | NT                      | Homo sapiens heat shock 70kD protein 1 (HSP70A), mRNA   |
| 3044             | 15810           |                | 6.88              | 0.0E+00                              | AL359403.1            | NT                      | Isomform 2 of a novel human mRNA from chromosome 22   |
| 3049             | 15815           | 28460          | 1.8               | 0.0E+00                              | AF017433.1            | NT                      | Homo sapiens putative transcription factor CR53 (CR53) mRNA, partial cds  |
|                  |                 |                |                   |                                      |                       |                         | Homo sapiens transmembrane protein JM11 protein, JM44 protein, JM5 protein, T54 protein, JM10 protein, A4 differentiation-dependent protein, triple LM domain protein G, and synaptophysin genes, complete cds; and L-type calcium channel $\alpha 2$ |
| 3052             | 15818           |                | 1.88              | 0.0E+00                              | AF188779.1            | NT                      | Homo sapiens chloride channel CLC4 (CLC4) mRNA, complete cds  |
| 3068             | 15832           | 28475          | 1.19              | 0.0E+00                              | AF170492.1            | NT                      | Homo sapiens chloride channel C region (IGL-C16.1)  |
| 3074             | 15840           | 28483          | 2.8               | 0.0E+00                              | X03529.1              | NT                      | Human germline gene 18.1 for Ig lambda L-chain C region (IgL-C16.1)   |
| 3080             | 15845           |                | 1.64              | 0.0E+00                              | AF189355.1            | NT                      | Homo sapiens F-box protein FBXJ5 (FBXJ5) mRNA, complete cds   |
| 3084             | 15849           | 28490          | 1.72              | 0.0E+00                              | AF084589.1            | NT                      | Homo sapiens melanoma-associated antigen (MAGE-C1) gene, complete cds   |
| 3104             | 15868           | 28509          | 3.2               | 0.0E+00                              | AF285208.1            | NT                      | Homo sapiens SWI-SNF complex protein p270 mRNA, partial cds   |
| 3105             | 15870           | 28510          | 7.83              | 0.0E+00                              | AF149773.1            | NT                      | Homo sapiens NOD1 protein (NOD1) gene, exons 1, 2, and 3  |
| 3110             | 15875           | 28514          | 3.42              | 0.0E+00                              | 7852139               | NT                      | Homo sapiens KIAA0468 gene product (KIAA0468), mRNA   |
| 3111             | 15876           | 28515          | 1.21              | 0.0E+00                              | AF042075.1            | NT                      | Homo sapiens olfactory receptor-like protein (OLFR 42B) gene, OLFR 42B-0110 allele, partial cds   |
|                  |                 |                |                   |                                      |                       |                         | Homo sapiens potassium voltage-gated channel, Shab-related subfamily, member 1 (KCNB1) mRNA   |
| 3138             | 15902           | 28547          | 3.74              | 0.0E+00                              | 4826783               | NT                      | Homo sapiens potassium voltage-gated channel mRNA, complete cds   |
| 3148             | 15911           | 28558          | 28.91             | 0.0E+00                              | L20941.1              | NT                      | Human ferritin heavy chain mRNA, complete cds   |
| 3151             | 15914           | 28559          | 1.32              | 0.0E+00                              | AB011121.1            | NT                      | Homo sapiens mRNA for KIAA0549 protein, partial cds   |
| 3161             | 15914           | 28560          | 1.32              | 0.0E+00                              | AB011121.1            | NT                      | Homo sapiens mRNA for KIAA0549 protein, partial cds   |
|                  |                 |                |                   |                                      |                       |                         | ye32103.s1 Strategene lung (#037210) Homo sapiens cDNA clone IMAGE:119453.3 similar to SP:S28539  |
| 3158             | 15921           | 28567          | 8.63              | 0.0E+00                              | T14870.1              | EST_HUMAN               | S28539 BASIC PROTEIN, 23K -   |
| 3172             | 15935           | 28584          | 0.88              | 0.0E+00                              | BF243336.1            | EST_HUMAN               | 60187850771 NIH MGC 55 Homo sapiens cDNA clone IMAGE:4107433.5  |
| 3173             | 15941           | 28591          | 4.39              | 0.0E+00                              | X88922.1              | NT                      | H. sapiens mRNA for gamma-glutamyltransferase   |
| 3178             | 15941           | 28592          | 4.39              | 0.0E+00                              | X88922.1              | NT                      | H. sapiens mRNA for gamma-glutamyltransferase   |
| 3187             | 15950           | 28601          | 1.31              | 0.0E+00                              | 4758827               | NT                      | Homo sapiens neurechin III (NRXN3) mRNA   |
| 3187             | 15950           | 28602          | 1.31              | 0.0E+00                              | 4758827               | NT                      | Homo sapiens Interleukin 1 receptor, type I (IL1R1) mRNA  |
| 3185             | 15958           | 28610          | 8.46              | 0.0E+00                              | 4504658               | NT                      | Homo sapiens nucleolar phosphoprotein B23 (NPM1) mRNA, complete cds   |
| 3211             | 15974           | 28626          | 3.25              | 0.0E+00                              | M28639.1              | NT                      | Homo sapiens solute carrier family 25 (mitochondrial carrier, adenine nucleotide translocator), member 5  |
| 3214             | 15977           | 28628          | 1.96              | 0.0E+00                              | 4502098               | NT                      | (SLC25A5), nuclear gene encoding mitochondrial protein, mRNA  |
| 3220             | 15983           | 28636          | 0.85              | 0.0E+00                              | 4758055               | NT                      | (CREBBP) mRNA   |

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Table 4  
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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No.   | Top Hit Database Source | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|--------------------------------------|---|-------------------------|--------------------|
| 3220 15983       | 28637           | 0.85           | 0.0E+00           | 4758055 NT                           | Homo sapiens CREB binding protein (Rubinstein-Taybi syndrome) (CREBBP) mRNA   |                         |                    |
| 3222 15985       | 28638           | 3.07           | 0.0E+00           | AA774783.1 EST HUMAN                 | aaS7b11.s1 Stratagene schizo brain S11 Homo sapiens cDNA clone IMAGE:971133 3'  |                         |                    |
| 3230 15983       | 28846           | 5.43           | 0.0E+00           | AF286598.1 NT                        | Homo sapiens angiotensin binding protein 1 mRNA, complete cds   |                         |                    |
| 3230 15983       | 28847           | 5.43           | 0.0E+00           | AF286598.1 NT                        | Homo sapiens angiotensin binding protein 1 mRNA, complete cds   |                         |                    |
| 3242 16004       | 28853           | 1.36           | 0.0E+00           | 4557590 NT                           | Homo sapiens fibrillin 1 (Marfan syndrome) (FBN1) mRNA  |                         |                    |
| 3248 16010       | 28861           | 1              | 0.0E+00           | 4507720 NT                           | Homo sapiens titin (TTN) mRNA   |                         |                    |
| 3255 16017       |                 | 6.8            | 0.0E+00           | M68188.1 NT                          | Human connexin 43 processed pseudogene  |                         |                    |
| 3256 16018       | 28868           | 1.28           | 0.0E+00           | AF019413.1 NT                        | Human complement component C4 (C4B) G11, heptapeptide (SK12W), RD, complement C4 genes, >   |                         |                    |
| 3258 16020       | 28870           | 3.98           | 0.0E+00           | AF055084.1 NT                        | Human complement component C2 (C2) genes, >   |                         |                    |
| 3261 16023       | 28872           | 1.11           | 0.0E+00           | 7682125 NT                           | Human complement receptor-1 (VLR1) mRNA, complete cds   |                         |                    |
| 3261 16023       | 28873           | 1.11           | 0.0E+00           | 7682125 NT                           | Human protease Cyp21B, complement component C4 (C4B) G11, heptapeptide (SK12W), RD, complement factor B (Bf), and complement component C2 (C2) genes, > |                         |                    |
| 3269 17875       | 28880           | 2.09           | 0.0E+00           | 4502014 NT                           | Human very large G-protein coupled receptor 1 (AKAP1) mRNA  |                         |                    |
| 3269 17875       | 28881           | 2.09           | 0.0E+00           | 4502014 NT                           | Human very large G-protein coupled receptor 1 (AKAP1) mRNA  |                         |                    |
| 3285 16046       | 28895           | 2.25           | 0.0E+00           | AF265208.1 NT                        | Human very large G-protein coupled receptor 1 (AKAP1) mRNA  |                         |                    |
| 3286 16047       | 28896           | 1.17           | 0.0E+00           | 8923824 NT                           | Human very large G-protein coupled receptor 1 (AKAP1) mRNA  |                         |                    |
| 3297 16059       | 28708           | 1.22           | 0.0E+00           | 7657038 NT                           | Human death receptor 6 (DR6) mRNA   |                         |                    |
| 3300 16062       | 28710           | 1.09           | 0.0E+00           | AA894842.1 EST HUMAN                 | Human death receptor 6 (DR6) mRNA   |                         |                    |
| 3309 16069       | 28718           | 1.18           | 0.0E+00           | 4885312 NT                           | Human death receptor 6 (DR6) mRNA   |                         |                    |
| 3318 16078       | 28728           | 1.89           | 0.0E+00           | AI689294.1 EST HUMAN                 | Human death receptor 6 (DR6) mRNA   |                         |                    |
| 3326 16086       | 28736           | 2.33           | 0.0E+00           | AF128893.1 NT                        | Human gene, exons 1-8   |                         |                    |
| 3326 16086       | 28737           | 2.33           | 0.0E+00           | AF128893.1 NT                        | Human gene, exons 1-8   |                         |                    |
| 3327 16087       | 28738           | 1.22           | 0.0E+00           | 7657213 NT                           | Human gene, exons 1-8   |                         |                    |
| 3327 16087       | 28739           | 1.22           | 0.0E+00           | 7657213 NT                           | Human gene, exons 1-8   |                         |                    |
| 3328 16089       | 28741           | 1.27           | 0.0E+00           | 4502582 NT                           | Human gene, exons 1-8   |                         |                    |
| 3328 16089       | 28742           | 1.27           | 0.0E+00           | 4502582 NT                           | Human gene, exons 1-8   |                         |                    |
| 3333 16093       | 28745           | 9.77           | 0.0E+00           | AF111163.1 NT                        | Human gene, exons 1-8   |                         |                    |
| 3335 16095       | 28747           | 1.29           | 0.0E+00           | AB040940.1 NT                        | Human gene, exons 1-8   |                         |                    |
| 3342 16101       | 28753           | 0.84           | 0.0E+00           | BE778039.1 EST HUMAN                 | Human gene, exons 1-8   |                         |                    |
| 3352 16112       | 28767           | 0.72           | 0.0E+00           | AI632569.1 EST HUMAN                 | Human gene, exons 1-8   |                         |                    |
| 3391 16150       | 28804           | 4.44           | 0.0E+00           | AU123664.1 EST HUMAN                 | Human gene, exons 1-8   |                         |                    |

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Table 4

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 3398             | 16156           | 28807          | 0.95              | 0.0E+00                              | 7363436               | NT                      | Homo sapiens olfactory receptor, family 10, subfamily C, member 1 (OR10C1), mRNA  |
| 3398             | 16156           | 28808          | 0.95              | 0.0E+00                              | 7363436               | NT                      | Homo sapiens olfactory receptor, family 10, subfamily C, member 1 (OR10C1), mRNA  |
| 3401             | 16159           | 28810          | 1.36              | 0.0E+00                              | 7708239               | NT                      | Homo sapiens neuroblastoma-amplified protein (LOC51594), mRNA   |
| 3402             | 16160           | 28811          | 1.42              | 0.0E+00                              | AF211189.1            | NT                      | Homo sapiens T-type calcium channel alpha1 subunit Alpha1- <i>a</i> isoform (CACNA1I) mRNA, complete cds                      |
| 3406             | 16164           |                | 0.90              | 0.0E+00                              | AW887015.1            | EST_HUMAN               | MRI-SN033-100400-001-008 SN0033 Homo sapiens cDNA   |
| 3418             | 16173           | 28824          | 1.68              | 0.0E+00                              | 7662401               | NT                      | Homo sapiens KIAA0952 protein (KIAA0952), mRNA  |
| 3418             | 16173           | 28825          | 1.68              | 0.0E+00                              | 7662401               | NT                      | Homo sapiens KIAA0952 protein (KIAA0952), mRNA  |
| 3419             | 16178           | 28828          | 1.34              | 0.0E+00                              | 4502398               | NT                      | Homo sapiens beaded filament structural protein 1, filensin (BFSP1) mRNA  |
| 3421             | 16178           | 28827          | 5.37              | 0.0E+00                              | 5803007               | NT                      | Homo sapiens leukocyte immunoglobulin-like receptor, subfamily A (with TM domain), member 2 (LIGRA2), mRNA                    |
| 3430             | 15441           | 28719          | 1.75              | 0.0E+00                              | AF110763.1            | NT                      | Homo sapiens skeletal muscle LIM-protein 1 (FLYL1) gene, complete cds   |
| 3435             | 16191           | 28840          | 2.4               | 0.0E+00                              | 7857038               | NT                      | Homo sapiens death receptor 6 (DR6), mRNA   |
| 3438             | 16194           | 28844          | 5.47              | 0.0E+00                              | K02380.1              | NT                      | Bacteriophage P1 replication region including rpa, parA, and parB genes and lncA, lncB, and lncC incompatibility determinants |
| 3440             | 16198           | 28846          | 1.5               | 0.0E+00                              | 7427522               | NT                      | Homo sapiens protein tyrosine phosphatase, receptor type, T (PTPRT), mRNA   |
| 3448             | 16204           | 28853          | 3.54              | 0.0E+00                              | AB835159.1            | EST_HUMAN               | wp14d10_x1_NCI_CGAP_Lu19 Homo sapiens cDNA clone IMAGE2484819 3' similar to TR-073634 073634 NEURAL CELL ADHESION MOLECULE ;  |
| 3448             | 16204           | 28854          | 3.54              | 0.0E+00                              | AB835159.1            | EST_HUMAN               | wp14d10_x1_NCI_CGAP_Lu19 Homo sapiens cDNA clone IMAGE2484810 3' similar to TR-073634 073634 NEURAL CELL ADHESION MOLECULE ;  |
| 3452             | 16208           | 28859          | 2.48              | 0.0E+00                              | AJ278120.1            | NT                      | Human MDS1A (AML1/MDS1 fusion) mRNA, partial cds  |
| 3459             | 16216           | 28868          | 1.82              | 0.0E+00                              | 6552392               | NT                      | Homo sapiens V-fos FBJ murine osteosarcoma viral oncogene homolog (FOS), mRNA   |
| 3459             | 16215           | 28869          | 1.82              | 0.0E+00                              | 6552392               | NT                      | Homo sapiens V-fos FBJ murine osteosarcoma viral oncogene homolog (FOS), mRNA   |
| 3464             | 16220           | 28874          | 1.31              | 0.0E+00                              | M14123.1              | NT                      | Human endogenous retrovirus HERV-K10  |
| 3470             | 16226           | 28880          | 5.4               | 0.0E+00                              | U43283.1              | NT                      | Human MDS1A (AML1/MDS1 fusion) mRNA, partial cds  |
| 3475             | 16231           | 28884          | 1.18              | 0.0E+00                              | 9553718               | NT                      | Homo sapiens hypothetical protein (AF038169), mRNA  |
| 3475             | 16231           | 28885          | 1.18              | 0.0E+00                              | 9553718               | NT                      | Homo sapiens hypothetical protein (AF038169), mRNA  |
| 3479             | 16235           | 28880          | 1.84              | 0.0E+00                              | AF045452.1            | NT                      | Homo sapiens cell-line KG1 transcriptional regulatory protein p54 mRNA, complete cds  |
| 3479             | 16235           | 28891          | 1.84              | 0.0E+00                              | AF045452.1            | NT                      | Homo sapiens cell-line KG1 transcriptional regulatory protein p54 mRNA, complete cds  |
| 3484             | 16241           | 28898          | 1.12              | 0.0E+00                              | AF231922.1            | NT                      | Homo sapiens chromosome 21 unknown mRNA   |
| 3486             | 16252           | 28905          | 2.21              | 0.0E+00                              | BE304781.1            | EST_HUMAN               | 601143853P1 NIH_MGC_18 Homo sapiens cDNA clone IMAGE3051373 5'  |
| 3488             | 16252           | 28908          | 2.21              | 0.0E+00                              | BE304791.1            | EST_HUMAN               | 601143853P1 NIH_MGC_15 Homo sapiens cDNA clone IMAGE3051373 5'  |
| 3499             | 16255           | 28909          | 0.82              | 0.0E+00                              | 4820795               | NT                      | Homo sapiens potassium voltage-gated channel, Isk-related family, member 2 (KCNE2) mRNA                                       |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 3504             | 18280           | 28914          | 0.89              | 0.0E+00                              | AIR84007.1            | EST_HUMAN               | ts35g12-x1 Soares_NH_IMPU_S1 Homo sapiens cDNA clone IMAGE:20887442 3' similar to TR:000498  |
| 3507             | 18283           | 28917          | 1.11              | 0.0E+00                              | M10978.1              | NT                      | 000498 MYASTHENIA GRAVIS AUTOANTIGEN GRAVIN :  |
| 3529             | 18285           | 28940          | 1.29              | 0.0E+00                              | AV701889              | EST_HUMAN               | Human endogenous retroviral DNA (4-1), complete retroviral segment                           |
| 3530             | 18286           | 28941          | 0.85              | 0.0E+00                              | 4506884               | NT                      | AV701889 ADB Homo sapiens cDNA clone ADDBAH08 5'   |
| 3531             | 18287           |                | 1.74              | 0.0E+00                              | AF078888.1            | NT                      | Homo sapiens homologous yeast 4-4 protein mRNA, complete cds                                 |
| 3539             | 18295           | 28945          | 1.49              | 0.0E+00                              | AL133204.1            | NT                      | Newer human gene mapping to chromosome X   |
| 3542             | 18297           | 28948          | 1.21              | 0.0E+00                              | AB040509.1            | NT                      | Homo sapiens mRNA for KUA1476 protein, partial cds   |
| 3581             | 18316           | 28983          | 1.37              | 0.0E+00                              | 6997248               | NT                      | Homo sapiens sal (Drosophila)-like 1 (SALL1), mRNA   |
| 3581             | 18316           | 28984          | 1.37              | 0.0E+00                              | 6997248               | NT                      | Homo sapiens sal (Drosophila)-like 1 (SALL1), mRNA   |
| 3582             | 18317           |                | 0.69              | 0.0E+00                              | AI081907.1            | EST_HUMAN               | ox77G11-x1 Soares_NH_IMPU_S1 Homo sapiens cDNA clone IMAGE:16622356 3' similar to WP:T19B4.4 |
| 3584             | 18319           | 28987          | 1.04              | 0.0E+00                              | 63254-63              | NT                      | CE13742; Homo sapiens butyrophilin, subfamily 3, member A3 (BTN3A3), mRNA                    |
| 3589             | 18324           |                | 4.17              | 0.0E+00                              | AW852217.1            | EST_HUMAN               | QV0-C70225-230300-169-e01 C70225 Homo sapiens cDNA   |
| 3578             | 18331           |                | 0.78              | 0.0E+00                              | AF118846.1            | NT                      | Homo sapiens gamma-glutamylcysteine synthetase (GLCLC) gene, partial cds                     |
| 3577             | 18332           | 28978          | 6.46              | 0.0E+00                              | BF878383.1            | EST_HUMAN               | 602084588F1 NIH_MGC_83 NIH mRNA clone IMAGE:4248588 5'                                       |
| 3589             | 18343           | 28989          | 0.9               | 0.0E+00                              | AW867977.1            | EST_HUMAN               | QV0-D70047-170200-123-901 D70047 Homo sapiens cDNA   |
| 3603             | 18356           | 28996          | 0.74              | 0.0E+00                              | BF872054.1            | EST_HUMAN               | 602152488F1 NIH_MGC_81 NIH mRNA clone IMAGE:4233645 5'                                       |
| 3603             | 18356           | 28997          | 0.74              | 0.0E+00                              | BF872054.1            | EST_HUMAN               | 602152488F1 NIH_MGC_81 NIH mRNA clone IMAGE:4233845 5'                                       |
| 3604             | 18357           |                | 0.86              | 0.0E+00                              | 4826867               | NT                      | Homo sapiens ribonucleotidre-binding protein 2 (RBBP2) mRNA                                  |
| 3608             | 18359           | 28989          | 1.08              | 0.0E+00                              | AW864683.1            | EST_HUMAN               | H8401-x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2878024 3'                        |
| 3608             | 18359           | 28000          | 1.08              | 0.0E+00                              | AW864683.1            | EST_HUMAN               | H8401-x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2878024 3'                        |
| 3609             | 18362           | 28004          | 1.42              | 0.0E+00                              | 4825783               | NT                      | Homo sapiens heparan sulfate (glucosaminide) 3-O-sulfotransferase 1 (HS3ST1) mRNA            |
| 3611             | 18364           | 28007          | 0.83              | 0.0E+00                              | 7862319               | NT                      | Homo sapiens KIAA0808 gene product (KIAA0808), mRNA  |
| 3621             | 18374           | 28015          | 0.82              | 0.0E+00                              | 4557752               | NT                      | Homo sapiens midline 1 (Optiz/BBB syndrome) (MID1) mRNA                                      |
| 3621             | 18374           | 28016          | 0.82              | 0.0E+00                              | 4557752               | NT                      | Homo sapiens midline 1 (Optiz/BBB syndrome) (MID1) mRNA                                      |
| 3638             | 18391           | 28030          | 2.07              | 0.0E+00                              | D873ZT.1              | NT                      | Homo sapiens for G protein-coupled inward rectifier potassium channel, complete cds          |
| 3642             | 18395           |                | 33.2              | 0.0E+00                              | 7869491               | NT                      | Homo sapiens dihydroxyacetonephosphate dehydrogenase (GAPD), mRNA                            |
| 3658             | 18411           | 28049          | 2.6               | 0.0E+00                              | AB026542.1            | NT                      | Homo sapiens WAVE2 mRNA for WASP-family protein, complete cds                                |
| 3660             | 18413           | 28051          | 3.38              | 0.0E+00                              | AF124250.1            | NT                      | Homo sapiens SH2-containing protein Nsp2 mRNA, complete cds                                  |
| 3660             | 18413           | 28052          | 3.38              | 0.0E+00                              | AF124250.1            | NT                      | Homo sapiens SH2-containing protein Nsp2 mRNA, complete cds                                  |
| 3668             | 18421           | 28061          | 1.85              | 0.0E+00                              | AL163204.2            | NT                      | Homo sapiens chromosome 21 segment HS21C004  |
| 3668             | 18421           | 28062          | 1.85              | 0.0E+00                              | AL163204.2            | NT                      | Homo sapiens chromosome 21 segment HS21C004  |
| 3671             | 18424           | 29065          | 1.62              | 0.0E+00                              | AW851714.1            | EST_HUMAN               | MR2-CT0222-281099-005-e05 CT0222 Homo sapiens cDNA   |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 3673             | 18428           | 28087          | 1.53              | 0.0E+00                              | 5728928               | NT                      | Homo sapiens matrix metalloproteinase 24 (membrane-inserted) (MMP24), mRNA   |
| 3675             | 18428           | 29089          | 1.81              | 0.0E+00                              | AB018538.1            | NT                      | Homo sapiens mRNA for KIAA0788 protein, partial cds  |
| 3677             | 18430           | 29071          | 1.1               | 0.0E+00                              | AB020717.1            | NT                      | Homo sapiens mRNA for KIAA0810 protein, partial cds  |
| 3677             | 18430           | 29072          | 1.1               | 0.0E+00                              | AB020717.1            | NT                      | Homo sapiens mRNA for KIAA0810 protein, partial cds (KIAA0870), mRNA   |
| 3679             | 18432           | 29074          | 22.21             | 0.0E+00                              | 7682237               | NT                      | Homo sapiens KIAA0870 protein/actin (KIAA0870), mRNA   |
| 3679             | 18432           | 29075          | 22.21             | 0.0E+00                              | 7682237               | NT                      | Homo sapiens cDNA clone IMAGE:2733022.3'   |
| 3682             | 18445           | 28084          | 4.35              | 0.0E+00                              | AW288134.1            | EST_HUMAN               | UHBW0_igs->12.0-U1_s1 NCI_CGAP_Sub6 Homo sapiens cDNA clone IMAGE:2733022.3'   |
| 3682             | 18445           | 28085          | 4.35              | 0.0E+00                              | AW288134.1            | EST_HUMAN               | UHBW0_igs->12.0-U1_s1 NCI_CGAP_Sub6 Homo sapiens cDNA clone IMAGE:2733022.3' similar to S1 Homo sapiens cDNA clone IMAGE:312468.5' |
| 3714             | 18487           | 29105          | 1.08              | 0.0E+00                              | AA463859.1            | EST_HUMAN               | SW1KR84_SHEEP_P02445 KERATIN, HIGH-SULFUR MATRIX PROTEIN, IIIB4, [1];  |
| 3718             | 18471           | 28109          | 1.14              | 0.0E+00                              | AB020710.1            | NT                      | Homo sapiens mRNA for KIAA0863 protein, partial cds  |
| 3721             | 18474           | 29111          | 3.31              | 0.0E+00                              | 7687468               | NT                      | Homo sapiens similar to rat integral membrane glycoprotein POM121 (POM121L1), mRNA   |
| 3730             | 18482           | 29120          | 0.82              | 0.0E+00                              | AB037835.1            | NT                      | Homo sapiens mRNA for KIAA0569 gene product (KIAA0569), mRNA   |
| 3742             | 18495           | 29130          | 4.9               | 0.0E+00                              | 7682183               | NT                      | Homo sapiens ribosomal protein S2 (RPS2) mRNA  |
| 3745             | 18498           | 29133          | 4.28              | 0.0E+00                              | 4508718               | NT                      | Homo sapiens v-ets avian erythroblastosis virus E26 oncogene related (ERG), mRNA   |
| 3751             | 18503           | 29138          | 1.08              | 0.0E+00                              | 7687085               | NT                      | Homo sapiens v-ets avian erythroblastosis virus E26 oncogene related (ERG), mRNA   |
| 3751             | 18503           | 29139          | 1.08              | 0.0E+00                              | 7687085               | NT                      | Homo sapiens RAB9, member RAS oncogene family (RAB9) gene, complete cds  |
| 3800             | 18552           |                | 0.71              | 0.0E+00                              | AF185688.1            | NT                      | Homo sapiens DNA mismatch repair protein (MLH3) gene, partial cds  |
| 3802             | 18554           | 29185          | 2.88              | 0.0E+00                              | AF179733.1            | NT                      | Pan troglobutes olfactory receptor (PTTR20B) gene, partial cds   |
| 3804             | 18559           | 28187          | 2.3               | 0.0E+00                              | 7657468               | NT                      | Homo sapiens v-ets avian erythroblastosis virus POM121 (POM121L1), mRNA  |
| 3804             | 18559           | 28188          | 2.3               | 0.0E+00                              | 7657468               | NT                      | Homo sapiens similar to rat integral membrane glycoprotein POM121 (POM121L1), mRNA   |
| 3808             | 18560           | 29183          | 1.24              | 0.0E+00                              | 4758011               | NT                      | Homo sapiens RAB9, member RAS oncogene family (RAB9) mRNA  |
| 3809             | 18561           | 28194          | 1.01              | 0.0E+00                              | 10181139              | NT                      | Mus musculus junctophilin 1 (Jip1-pending), mRNA   |
| 3812             | 18584           | 28197          | 1.01              | 0.0E+00                              | AI377689.1            | EST_HUMAN               | tel621021 Scarecs_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2091307.3'  |
| 3813             | 18563           |                | 1.97              | 0.0E+00                              | AF152498.1            | NT                      | Homo sapiens protocadherin beta 3 (PCDH1-beta3) mRNA, complete cds   |
| 3814             | 18568           | 29198          | 1.14              | 0.0E+00                              | 4758189               | NT                      | Homo sapiens desmoplakin (DPL, DPLI) (DSP) mRNA  |
| 3818             | 18570           | 28202          | 10.39             | 0.0E+00                              | S78885.1              | NT                      | Homo sapiens ATP-sensitive inwardly rectifying K-channel subunit (KCNJ8BIR1) gene, complete cds                                    |
| 3818             | 18571           | 28203          | 2.22              | 0.0E+00                              | 7710148               | NT                      | Homo sapiens methyl CpG binding protein 2 (MECP2), mRNA  |
| 3820             | 18572           | 29204          | 6.03              | 0.0E+00                              | 7882183               | NT                      | Homo sapiens KIAA0569 gene product (KIAA0569), mRNA  |
| 3824             | 18576           | 28207          | 1.23              | 0.0E+00                              | AF068601.2            | NT                      | Homo sapiens myosin light chain kinase isoform 2 (MLCK) mRNA, complete cds   |
| 3824             | 18576           | 28208          | 1.23              | 0.0E+00                              | AF068601.2            | NT                      | Homo sapiens myosin light chain kinase isoform 2 (MLCK) mRNA, complete and partial cds   |
| 3829             | 18580           | 28213          | 0.87              | 0.0E+00                              | AB001523.1            | NT                      | Homo sapiens gene for TMEM1 and PWF2, complete and partial cds   |
| 3829             | 18580           | 28214          | 0.87              | 0.0E+00                              | AB001523.1            | NT                      | Homo sapiens gene for TMEM1 and PWF2, complete and partial cds   |

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| Probe Seq ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 3831             | 16582           | 28216          | 1.12              | 0.0E+00                              | 6812735               | NT                      | Homo sapiens transient receptor potential channel 5 (TRPC5), mRNA  |
| 3835             | 16586           | 28222          | 6.16              | 0.0E+00                              | 4503178               | NT                      | Homo sapiens chromosome X open reading frame 5 (CXorf5) mRNA   |
| 3835             | 16586           | 28223          | 6.16              | 0.0E+00                              | 4503178               | NT                      | Homo sapiens chromosome X open reading frame 5 (CXorf5) mRNA   |
| 3837             | 16588           | 28226          | 4.04              | 0.0E+00                              | U09412.1              | NT                      | Human zinc finger protein ZNF134 mRNA, complete cds  |
| 3838             | 16589           | 28227          | 0.89              | 0.0E+00                              | AF114488.1            | NT                      | Homo sapiens Intersectin short isoform (ITSN) mRNA, complete cds   |
| 3841             | 16592           | 28229          | 2.98              | 0.0E+00                              | 4826783               | NT                      | Homo sapiens potassium voltage-gated channel, Shab-related subfamily, member 1 (Kcnb1) mRNA  |
| 3844             | 16595           | 28232          | 1.05              | 0.0E+00                              | AF012615.1            | NT                      | Homo sapiens familial mental retardation protein 2 (FMR2) gene, exon 11  |
| 3845             | 16598           | 28233          | 1.43              | 0.0E+00                              | 4759171               | NT                      | Homo sapiens SC35-interacting protein 1 (SF3BP29) mRNA   |
| 3847             | 16598           | 28235          | 0.74              | 0.0E+00                              | AF089117.1            | NT                      | Homo sapiens amphiphysin gene, partial cds   |
| 3858             | 16608           | 28244          | 2.16              | 0.0E+00                              | A1884727.1            | EST_HUMAN               | wk01f01_x1 NCI_CGAP_Lym12 Homo sapiens cDNA clone IMAGE:2411085 3' similar to TR:043340 O43340 R28830 2. contains element P17R repetitive element; |
| 3859             | 16609           | 28248          | 4.24              | 0.0E+00                              | 4506742               | NT                      | Homo sapiens ribosomal protein S8 (RPS8), mRNA   |
| 3862             | 16612           | 28251          | 1.35              | 0.0E+00                              | AL040338.1            | EST_HUMAN               | DKFZp434N0413_1_1434 (synonym: hsc3) Homo sapiens cDNA clone DKFZp434N0413 5'  |
| 3867             | 16617           | 28256          | 1.28              | 0.0E+00                              | 6005887               | NT                      | Homo sapiens AP1 gamma subunit binding protein 1 (AP1GBP1), mRNA   |
| 3867             | 16617           | 28257          | 1.28              | 0.0E+00                              | 6005887               | NT                      | Homo sapiens AP1 gamma subunit binding protein 1 (AP1GBP1), mRNA   |
| 3869             | 16619           | 28259          | 3.22              | 0.0E+00                              | 4504138               | NT                      | Homo sapiens glutamate receptor, metabotropic 3 (GRM3) mRNA  |
| 3871             | 16821           |                | 1.82              | 0.0E+00                              | 4505078               | NT                      | Homo sapiens melanoma antigen, family B, 1 (MAGEB1) mRNA   |
| 3875             | 16825           | 28263          | 1.18              | 0.0E+00                              | AF148412.1            | NT                      | Homo sapiens HBPI7 heparin-binding protein gene, complete cds  |
| 3884             | 16834           | 28273          | 1.2               | 0.0E+00                              | 4508758               | NT                      | Homo sapiens neuronodium receptor 3 (RYR3) mRNA  |
| 3888             | 16838           | 29277          | 1.47              | 0.0E+00                              | 4588642               | NT                      | Homo sapiens zinc finger protein (KJAA0412) mRNA   |
| 3898             | 16846           | 28286          | 1.18              | 0.0E+00                              | BF355295.1            | EST_HUMAN               | RC3-H1T0860-170860-011-ef12 HT0860 Homo sapiens cDNA   |
| 3898             | 16848           | 28288          | 1.05              | 0.0E+00                              | AW888221.1            | EST_HUMAN               | MXRA5 Human matrix tissue expression library Homo sapiens cDNA clone Incyte 1888726 similar to MXRAs Matrix remodeling associated gene 5           |
| 3898             | 16848           | 29289          | 1.05              | 0.0E+00                              | AW888221.1            | EST_HUMAN               | MXRA5 Human matrix tissue expression library Homo sapiens cDNA clone Incyte 1888728 similar to MXRAs Matrix remodeling associated gene 5           |
| 3904             | 16854           | 28295          | 1.82              | 0.0E+00                              | AF128633.1            | NT                      | Homo sapiens F-box protein Fbx36 (FBX36) mRNA, partial cds   |
| 3907             | 16857           | 28298          | 1                 | 0.0E+00                              | AW451308.1            | EST_HUMAN               | U1+H-B13-ell-8-07-Q-U1.s1 NCI_CGAP_Sub5 Homo sapiens cDNA clone IMAGE:2736949 3'   |
| 3912             | 16862           | 28303          | 2.81              | 0.0E+00                              | BE378602.1            | EST_HUMAN               | 601236886F1 NIH_MGC_44_Homo sapiens cDNA clone IMAGE:3608800 5'  |
| 3920             | 16870           | 28311          | 0.92              | 0.0E+00                              | AW580740.1            | EST_HUMAN               | PM3-L-T0031-100100-003-H88_LT0031 Homo sapiens cDNA  |
| 3922             | 16872           | 28312          | 2.49              | 0.0E+00                              | 5360215               | NT                      | Homo sapiens fumonitate 2-sulfatase (Hunter syndrome) (IDS), transcript variant 1, mRNA  |
| 3923             | 16873           | 28313          | 0.98              | 0.0E+00                              | BE284988.1            | EST_HUMAN               | 601193827F1 NIH_MGC_7_Homo sapiens cDNA clone IMAGE:3597774 5'   |
| 3952             | 16702           | 28339          | 1.42              | 0.0E+00                              | U106891.1             | NT                      | Human G2 protein mRNA, partial cds   |

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| Probe Seq ID No: | Exon Seq ID No: | ORF Seq ID No: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Sources | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--------------------------|--|
| 3952             | 16702           | 28340          | 1.42              | 0.0E+00                              | U10891.1              | NT                       | Human G2 protein mRNA, partial cds   |
| 3952             | 16702           | 28341          | 1.42              | 0.0E+00                              | U10891.1              | NT                       | Human G2 protein mRNA, partial cds   |
| 3957             | 16708           | 28344          | 4.69              | 0.0E+00                              | AF116195.1            | NT                       | Human sapiens cancer-testis antigen CT10 (CT10) gene, complete cds   |
| 3957             | 16708           | 28345          | 4.69              | 0.0E+00                              | AF116195.1            | NT                       | Human sapiens cancer-testis antigen CT10 (CT10) gene, complete cds   |
| 3968             | 16715           |                | 4.39              | 0.0E+00                              | M23810.1              | NT                       | Human MHC class II lymphocyte antigen DRw-beta-2 pseudogene, exon 2  |
| 3968             | 16717           |                | 5.74              | 0.0E+00                              | AL168303.2            | NT                       | Human sapiens chromosome 21 segment HS21C103   |
| 3968             | 16717           |                |                   |                                      |                       |                          | Novel human gene mapping to chromosome 20  |
| 3975             | 16724           | 28359          | 1.35              | 0.0E+00                              | AL118494.1            | NT                       | Novel human gene mapping to chromosome 21 segment HS21C084   |
| 3979             | 16727           | 28361          | 3.22              | 0.0E+00                              | AL1632284.2           | NT                       | Human sapiens chromosome 21 segment HS21C088   |
| 3987             | 16735           | 28369          | 1.71              | 0.0E+00                              | AL1632268.2           | NT                       | Human sapiens eukaryotic translation elongation factor 1 alpha 1 (EEF1A1) mRNA   |
| 3989             | 16747           |                | 27.98             | 0.0E+00                              | 4503470               | NT                       | Human sapiens cDNA clone IMAGE-2244734 3' similar to TR-O80309 O80309 H5408.X1 NCI CGAP GCB Homo sapiens cDNA clone IMAGE-2244734 3' similar to TR-O80309 O80309 |
| 4003             | 16750           |                | 1.15              | 0.0E+00                              | AB657076.1            | EST_HUMAN                | KIAA0563 PROTEIN :   |
| 4005             | 16751           | 28382          | 2.97              | 0.0E+00                              | 7662183               | NT                       | Human sapiens KIAA0568 gene product (KIAA0568), mRNA   |
| 4008             | 16752           | 28383          | 2.85              | 0.0E+00                              | U08366.1              | NT                       | Human zinc finger protein ZNF133   |
| 4013             | 16759           | 28387          | 0.95              | 0.0E+00                              | AW339480.1            | EST_HUMAN                | Human zinc finger protein ZNF133   |
| 4024             | 16769           | 28401          | 0.33              | 0.0E+00                              | AB015610.1            | NT                       | Chlorocebus aethiops mRNA for ribosomal protein S4X, complete cds  |
| 4033             | 16778           |                | 3.72              | 0.0E+00                              | AJ238617.1            | NT                       | Hominoidea mRNA for UGA suppressor tRNA-associated antigenic protein (tRNA48 gene)   |
| 4045             | 16780           | 28418          | 1.32              | 0.0E+00                              | AB0022314.2           | NT                       | Hominoidea mRNA for KIAA0316 protein, partial cds  |
| 4048             | 16781           | 28419          | 1.04              | 0.0E+00                              | AL163203.2            | NT                       | Human sapiens chromosome 21 segment HS21C093   |
| 4047             | 16782           | 28420          | 1.18              | 0.0E+00                              | AF038943.1            | NT                       | Human sapiens myelin transcription factor 1-like (MYT1L) mRNA, complete cds  |
| 4048             | 16783           | 28421          | 2.85              | 0.0E+00                              | AJ277276.1            | NT                       | Human sapiens mRNA for rapa-2 (rapa gene)  |
| 4048             | 16783           | 28422          | 2.65              | 0.0E+00                              | AJ277276.1            | NT                       | Human sapiens mRNA for rapa-2 (rapa gene)  |
| 4054             | 16789           | 28429          | 6.29              | 0.0E+00                              | 6032028               | NT                       | Human sapiens reelinoblastoma-binding protein 4 (RBBP4) mRNA   |
| 4054             | 16789           | 28430          | 6.29              | 0.0E+00                              | 5032026               | NT                       | Human sapiens reelinoblastoma-binding protein 4 (RBBP4) mRNA   |
| 4069             | 16813           | 28442          | 4.7               | 0.0E+00                              | 4885306               | NT                       | Human sapiens mRNA for GPR21 (GPR21), mRNA   |
| 4070             | 16814           | 28443          | 5.88              | 0.0E+00                              | AB008625.1            | NT                       | Human sapiens G protein-coupled receptor 21 (GPR21) gene, partial cds  |
| 4073             | 16817           | 28444          | 1.11              | 0.0E+00                              | 4758907               | NT                       | Human sapiens GTPase activating protein-like (NGAP) mRNA   |
| 4074             | 16818           | 28445          | 5.87              | 0.0E+00                              | 114162987             | NT                       | Human sapiens IMP (inosine monophosphate) dehydrogenase 1 (IMPDH1), mRNA   |
| 4075             | 16819           | 28446          | 1.94              | 0.0E+00                              | AL098857.1            | NT                       | Novel human mRNA from chromosome 1, which has similarities to BA172 genes  |
| 4092             | 16820           | 28453          | 2.71              | 0.0E+00                              | AF165527.1            | NT                       | Human sapiens DGCGR8 (DGCGR8) mRNA   |
| 4091             | 13867           | 28525          | 0.82              | 0.0E+00                              | 4826947               | NT                       | Human sapiens protein kinase, X-linked (PRKX) mRNA   |
| 4091             | 13867           | 28526          | 0.82              | 0.0E+00                              | 5901905               | NT                       | Human sapiens butyrophilin, subfamily 3, member A2 (BTN3A2), mRNA  |
| 4097             | 16840           | 29466          | 1.09              | 0.0E+00                              | 4503854               | NT                       | Human sapiens transcription factor, alpha subunit (GαO) (GABPA), mRNA  |
| 4098             | 16842           | 29469          | 1.08              | 0.0E+00                              |                       |                          | Human sapiens GA-binding protein transcription factor, alpha subunit (GαO) (GABPA), mRNA   |

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 Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|---|--|
| 4089             | 16842           | 28470          | 1.08              | 0.0E+00                              | 4503854. NT           | Homo sapiens Gα-binding protein transcription factor, alpha subunit (GαD) (GABPA), mRNA |  |
| 4107             | 16850           | 28476          | 0.89              | 0.0E+00                              | AB020702.1            | NT  | Homo sapiens mRNA for KIAA0895 protein, partial cds  |
| 4112             | 16855           | 28482          | 4.83              | 0.0E+00                              | AI982587.1            | EST_HUMAN   | IMAGE:2515975 5' wu0404_x1 NC_ CGAP_GC8 Homo sapiens cDNA clone IMAGE:2515975 3'   |
| 4112             | 16855           | 28483          | 4.83              | 0.0E+00                              | AI982587.1            | EST_HUMAN   | wu0404_x1 NC_ CGAP_GC8 Homo sapiens cDNA clone IMAGE:2515975 3'  |
| 4115             | 16857           | 28485          | 0.82              | 0.0E+00                              | BE184858.1            | EST_HUMAN   | MFR1-HT07-109500-001-e02 HT0707 Homo sapiens cDNA  |
| 4115             | 16857           | 28486          | 0.82              | 0.0E+00                              | BE184858.1            | EST_HUMAN   | MFR1-HT07-109500-001-e02 HT0707 Homo sapiens cDNA  |
| 4120             | 16862           |                | 2.34              | 0.0E+00                              | BE274277.1            | EST_HUMAN   | 601120778F NIH_MGC_20 Homo sapiens cDNA clone IMAGE:2867680 5'   |
| 4128             | 16868           | 29495          | 0.99              | 0.0E+00                              | AB032851.1            | NT  | Homo sapiens mRNA for KIAA1125 protein, partial cds  |
| 4128             | 16868           | 29498          | 0.99              | 0.0E+00                              | AB032851.1            | NT  | Homo sapiens mRNA for KIAA1125 protein, partial cds  |
| 4128             | 16870           | 29498          | 2.24              | 0.0E+00                              | 5728725               | NT  | Homo sapiens nuclear receptor coactivator 3 (NCOA3), mRNA  |
| 4135             | 16877           |                | 5.52              | 0.0E+00                              | AW676599.1            | EST_HUMAN   | Q85108 MITOCHONDRIAL THIOREDOXIN PRECURSOR,  |
| 4140             | 16882           | 29511          | 1.14              | 0.0E+00                              | AW408788.1            | EST_HUMAN   | UHF-BM0-adx-0-02-0-U1.1 NIH_MGC_38 Homo sapiens cDNA clone IMAGE:3083147 5'  |
| 4142             | 16884           | 29514          | 1.28              | 0.0E+00                              | 8922486               | NT  | Homo sapiens hypothetical protein FLJ10498 (FLJ10498), mRNA  |
| 4142             | 16884           | 29515          | 1.28              | 0.0E+00                              | 8922486               | NT  | Homo sapiens hypothetical protein FLJ10498 (FLJ10498), mRNA  |
| 4151             | 16893           |                | 2.8               | 0.0E+00                              | 5174632               | NT  | Homo sapiens polycystic kidney disease (polycystin) and REJ (sperm receptor for egg jelly, see urchin homolog)-like (PKDREJ) mRNA                          |
| 4169             | 16909           | 29537          | 8.97              | 0.0E+00                              | AA401438.1            | EST_HUMAN   | zg88t07_s1 Soares_testis_NHT Homo sapiens cDNA clone IMAGE:743197 3' similar to contains Atu repetitive element contains element MER35 repetitive element; |
| 4169             | 16909           | 29538          | 8.97              | 0.0E+00                              | AA401438.1            | EST_HUMAN   | zg88t07_s1 Soares_testis_NHT Homo sapiens cDNA clone IMAGE:743197 3' similar to contains Atu repetitive element contains element MER35 repetitive element; |
| 4205             | 16946           |                | 1.01              | 0.0E+00                              | AI163803.2            | NT  | Homo sapiens chromosome 21 segment HS21C103  |
| 4240             | 16981           | 28606          | 4.98              | 0.0E+00                              | JD2610.1              | NT  | Human apolipoprotein B-100 mRNA, complete cds  |
| 4255             | 16998           | 28625          | 0.83              | 0.0E+00                              | AW036889.1            | EST_HUMAN   | PW2-DT0023-080500-004-808 D70023 Homo sapiens cDNA   |
| 4261             | 17002           | 28633          | 0.74              | 0.0E+00                              | 4826827               | NT  | Homo sapiens myelodysplastic syndrome 1 (MDS1) mRNA  |
| 4261             | 17002           | 28634          | 0.74              | 0.0E+00                              | 4826827               | NT  | Homo sapiens myelodysplastic syndrome 1 (MDS1) mRNA  |
| 4263             | 17004           | 28636          | 4.7               | 0.0E+00                              | AF174590.1            | NT  | Homo sapiens F-box protein Fbl4 (FBL4) mRNA, partial cds   |
| 4270             | 17010           |                | 2.52              | 0.0E+00                              | AI189844.1            | EST_HUMAN   | qd23t06_x1 Soares_placenta_80weeks_27thHP80tW Homo sapiens cDNA clone IMAGE:1724579 3' similar to contains MER20_b2 MER20 repetitive element;              |
| 4273             | 17012           |                | 4.32              | 0.0E+00                              | U14820.1              | NT  | Human CBFA3 (Cbfα3) gene, partial cds  |
| 4285             | 17024           | 28650          | 1.35              | 0.0E+00                              | 4505846               | NT  | Homo sapiens proprotein convertase subtilisin/kexin type 2 (PCSK2) mRNA  |
| 4291             | 17030           | 28657          | 0.76              | 0.0E+00                              | 6563384               | NT  | Homo sapiens Protein kinase C, nu (PRKCN), mRNA  |
| 4291             | 17030           | 28658          | 0.76              | 0.0E+00                              | 6563384               | NT  | Homo sapiens Protein kinase C, nu (PRKCN), mRNA  |
| 4297             | 17036           | 28664          | 1.58              | 0.0E+00                              | U10891.1              | NT  | Human G2 protein mRNA, partial cds   |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 4297             | 17038           | 28665          | 1.53              | 0.0E+00                              | U10891.1              | NT                      | Human G2 protein mRNA, partial cds   |
| 4307             | 17046           | 28671          | 8.31              | 0.0E+00                              | 6812281               | NT                      | Homo sapiens COMPLEMENT COMPONENT C1q RECEPTOR (C1QR), mRNA  |
| 4327             | 17068           |                | 1.16              | 0.0E+00                              | AFT63047.2            | NT                      | Homo sapiens gap junction protein connexin-36 (CX36) gene, complete cds  |
| 4337             | 17076           | 29704          | 4.17              | 0.0E+00                              | L14681.1              | NT                      | Homo sapiens plasma membrane calcium ATPase isoform 1 (ATP2B1) gene, alternative splice products, partial cds            |
| 4341             | 17080           | 29709          | 2.88              | 0.0E+00                              | Z80780.1              | NT                      | H.sapiens H2B5h gene   |
| 4341             | 17080           | 29710          | 2.88              | 0.0E+00                              | Z80780.1              | NT                      | H.sapiens H2B5h gene   |
| 4342             | 17081           | 29711          | 0.94              | 0.0E+00                              | AW168933.1            | EST_HUMAN               | XG68810X1 NCL CGAP_LW4 Homo sapiens cDNA clone IMAGE:2833514 3' similar to TRP97365 P97365                               |
| 4348             | 17087           | 29717          | 1.42              | 0.0E+00                              | X60483.1              | NT                      | H.sapiens H4/d gene for H4 histone   |
| 4348             | 17087           | 29718          | 1.42              | 0.0E+00                              | X60483.1              | NT                      | H.sapiens H4/d gene for H4 histone   |
| 4353             | 17091           | 29724          | 8.62              | 0.0E+00                              | 7862091               | NT                      | Homo sapiens KIAA0390 gene product (KIAA0390), mRNA  |
| 4353             | 17091           | 29725          | 8.62              | 0.0E+00                              | 7862091               | NT                      | Homo sapiens KIAA0390 gene product (KIAA0390), mRNA  |
| 4358             | 17104           | 29740          | 12.59             | 0.0E+00                              | 4885126               | NT                      | Homo sapiens caudal type homeo box transcription factor 4 (CDX4), mRNA   |
| 4367             | 17105           | 29741          | 1.14              | 0.0E+00                              | AJ271736.1            | NT                      | Homo sapiens Xq1 pseudautosomal region; segment 2'2  |
| 4400             | 17137           | 29768          | 0.98              | 0.0E+00                              | 7019456               | NT                      | Homo sapiens mmpsin regulatory light chain interacting protein (MIR), mRNA   |
| 4408             | 17145           |                | 6.5               | 0.0E+00                              | AF195953.1            | NT                      | Homo sapiens membrane-bound aminopeptidase P (XNPEP2) gene, complete cds   |
| 4414             | 17151           | 29778          | 1.25              | 0.0E+00                              | A1249785.1            | NT                      | Homo sapiens ACTN2 gene for alpha-Actinin 2, exon 10   |
| 4414             | 17151           | 29779          | 1.25              | 0.0E+00                              | A1249785.1            | NT                      | Homo sapiens ACTN2 gene, intron 6  |
| 4438             | 17172           |                | 1.81              | 0.0E+00                              | AF200529.1            | EST_HUMAN               | seq1328 b4HB3MA_Co8+HAP_Ft Homo sapiens cDNA clone b4HB3MA_Co8+HAP_Ft  |
| 4453             | 17189           | 29814          | 1.43              | 0.0E+00                              | T10233.1              | EST_HUMAN               | seq1328 b4HB3MA_Co8+HAP_Ft Homo sapiens cDNA clone b4HB3MA_Co8+HAP_Ft  |
| 4453             | 17189           | 29815          | 1.43              | 0.0E+00                              | T10233.1              | EST_HUMAN               | Human endogenous retrovirus HERV_K10   |
| 4458             | 17192           |                | 0.73              | 0.0E+00                              | M14123.1              | NT                      | XG68608.X1 NCL CGAP_E502 Homo sapiens cDNA clone IMAGE:2688446 3' similar to SW_AHNK_HUMAN                               |
| 4466             | 17202           | 29828          | 5.68              | 0.0E+00                              | AW084984.1            | EST_HUMAN               | Q86868 NEUROBLAST DIFFERENTIATION ASSOCIATED PROTEIN AHNK;   |
| 4468             | 17201           | 29831          | 1.57              | 0.0E+00                              | 8051619               | NT                      | Hom sapiens LIM domain kinase 2 (LIMK2), transcript variant 2a, mRNA   |
| 4470             | 17205           | 29831          | 0.93              | 0.0E+00                              | A1698698.1            | EST_HUMAN               | we68b02.xls NCL CGAP_Pr28 Homo sapiens cDNA clone IMAGE:2322603 3' similar to contains MER22.52 PTR5 repetitive element; |
| 4473             | 17208           |                | 8.82              | 0.0E+00                              | AL163207.2            | NT                      | Homo sapiens chromosome 21 segment HS21C007  |
| 4475             | 17210           | 29835          | 3.17              | 0.0E+00                              | AW381570.1            | EST_HUMAN               | PM1-HT0305-101189-002-d03 HT0305 Homo sapiens cDNA   |
| 4481             | 17216           | 29842          | 1.89              | 0.0E+00                              | AJ278120.1            | NT                      | Homo sapiens mRNA for putative armadillo-repeat containing protein (ORF-1)   |
| 4481             | 17216           | 29843          | 1.89              | 0.0E+00                              | AJ278120.1            | NT                      | Homo sapiens G protein-coupled receptor 50 (GPR50), mRNA   |
| 4483             | 17218           | 29845          | 1.28              | 0.0E+00                              | 4753487               | NT                      | Homo sapiens serine-threonine protein kinase (MNKH) mRNA, complete cds   |
| 4484             | 17219           | 29846          | 2.88              | 0.0E+00                              | AF108930.1            | NT                      | Homo sapiens serine-threonine protein kinase (MNKH) mRNA, complete cds   |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 4493             | 17229           | 28858          | 1.28              | 0.0E+00                              | S78684.1              | NT                      | Human sapiens ATP-sensitive inwardly rectifying K-channel subunit (KCNJ6/BIR1) gene, exon                             |
| 4494             | 17230           | 28859          | 1.08              | 0.0E+00                              | AF111163.1            | NT                      | Human sapiens pyrin (MEFY) gene, complete cds   |
| 4494             | 17230           | 28860          | 1.08              | 0.0E+00                              | AF111163.1            | NT                      | Human sapiens pyrin (MEFY) gene, complete cds   |
| 4502             | 17882           | 28870          | 2.58              | 0.0E+00                              | 6005973               | NT                      | Human sapiens zinc finger protein 185 (ZNF185), mRNA  |
| 4507             | 17242           | 28875          | 6.16              | 0.0E+00                              | AF208161.1            | NT                      | Human sapiens syncytin precursor, mRNA, complete cds  |
| 4512             | 17247           | 28882          | 4.31              | 0.0E+00                              | AF152237.1            | NT                      | Human sapiens protoadherin gamma C3 (PCDH-gamma-C3) mRNA, complete cds  |
| 4515             | 17250           | 28888          | 1.32              | 0.0E+00                              | 5454175               | NT                      | Human sapiens zinc finger protein 211 (ZNF211), mRNA  |
| 4526             | 17260           | 28894          | 15.47             | 0.0E+00                              | 4503470               | NT                      | Human sapiens eukaryotic translation elongation factor 1 alpha 1 (EEF1A1) mRNA  |
| 4532             | 17267           | 28900          | 0.79              | 0.0E+00                              | 4505010               | NT                      | Human sapiens low density lipoprotein receptor-related protein 6 (LRP6) mRNA, and translated products                 |
| 4538             | 17271           | 28903          | 1.81              | 0.0E+00                              | 4503098               | NT                      | Human sapiens chondroitin sulfate proteoglycan 4 (melanoma-associated) (CSFPG4), mRNA                                 |
| 4540             | 17276           | 28908          | 2.03              | 0.0E+00                              | 4502558               | NT                      | Human sapiens calcium/calmodulin-dependent protein kinase IV (CaMKIV) mRNA  |
| 4544             | 17279           |                | 2.38              | 0.0E+00                              | L35485.1              | NT                      | Human sapiens diuronate sulphatase (IDS) gene, complete cds   |
| 4546             | 17281           | 28910          | 12.72             | 0.0E+00                              | 7662091               | NT                      | Human sapiens KIAAC030 gene product (KIAAC030), mRNA  |
| 4546             | 17281           | 28911          | 12.72             | 0.0E+00                              | 7662091               | NT                      | Human sapiens KIAAC030 gene product (KIAAC030), mRNA  |
| 4583             | 17288           | 28925          | 0.86              | 0.0E+00                              | AF43314.1             | NT                      | Human sapiens PTEN (PTEN) gene, exons 3 through 5   |
| 4588             | 17301           | 28928          | 10.33             | 0.0E+00                              | AJ245418.1            | NT                      | Human sapiens mRNA for G7c protein (G7c gene located in the class III region of the major histocompatibility complex) |
| 4588             | 17301           | 28929          | 10.33             | 0.0E+00                              | AJ245418.1            | NT                      | Human sapiens mRNA for G7c protein (G7c gene located in the class III region of the major histocompatibility complex) |
| 4581             | 17316           |                | 1.68              | 0.0E+00                              | AA174072.1            | EST HUMAN               | ZP16g08.s1 Stratagene fetal retina cDNA clone IMAGE:808854.3  |
| 4583             | 17318           |                | 1.46              | 0.0E+00                              | -                     | 7657410                 | Human sapiens ootz (odd Oztien-1, Drosophila) homolog 1 (ODZ1), mRNA  |
| 4585             | 17320           |                | 3.16              | 0.0E+00                              | AL163284.2            | NT                      | Human sapiens chromosome 21 segment HS21C084  |
| 4586             | 17321           | 28947          | 1.04              | 0.0E+00                              | HS2741.1              | EST HUMAN               | Y92601.s1 Seares, pheal, gland, NasIPG Homo sapiens cDNA clone IMAGE:231721.3'  |
| 4586             | 17321           | 28948          | 1.04              | 0.0E+00                              | I-82741.1             | EST HUMAN               | Y92601.s1 Seares, pheal, gland, NasIPG Homo sapiens cDNA clone IMAGE:231721.3'  |
| 4587             | 17322           | 28949          | 2.8               | 0.0E+00                              | AF184110.1            | NT                      | Human sapiens cyclophilin-related protein (NKTR) gene, complete cds   |
| 4588             | 17323           | 28950          | 4.84              | 0.0E+00                              | AL163300.2            | NT                      | Human sapiens chromosome 21 segment HS21C100  |
| 4589             | 17324           |                | 1.86              | 0.0E+00                              | AB037621.1            | NT                      | Human sapiens gene for natriuretic protein, partial cds   |
| 4596             | 17331           | 28958          | 1.53              | 0.0E+00                              | 4557987               | NT                      | Human sapiens keratin 18 (KRT18) mRNA   |
| 4596             | 17331           | 28959          | 1.53              | 0.0E+00                              | 4557987               | NT                      | Human sapiens keratin 18 (KRT18) mRNA   |
| 4597             | 17332           | 28960          | 1.52              | 0.0E+00                              | AF153981.1            | NT                      | Human sapiens inwardly-rectifying potassium channel Kr2.1 (KCNJ2) gene, exon 2 and complete cds                       |
| 4597             | 17332           | 28961          | 1.52              | 0.0E+00                              | AF163618.1            | NT                      | Human sapiens inwardly-rectifying potassium channel Kr2.1 (KCNJ2) gene, exon 2 and complete cds                       |

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 Table 4  
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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|---|--------------------|
| 4628 17333       | 29862           | 1.5            | 0.0E+00           | AF167441.1                           | NT                    | Mus musculus E-cadherin binding protein E7 mRNA, complete cds   |                    |
| 4629 17340       | 29870           | 1.22           | 0.0E+00           | AB028970.1                           | NT                    | Homo sapiens mRNA for KIAA1047 protein, partial cds   |                    |
| 4630 17340       | 29871           | 1.22           | 0.0E+00           | AB028970.1                           | NT                    | Homo sapiens mRNA for KIAA1047 protein, partial cds   |                    |
| 4631 17348       | 29879           | 6.25           | 0.0E+00           | Y15890.1                             | NT                    | Human endogenous retrovirus type K (HERV-K), gag, pol and env genes   |                    |
| 4632 17352       | 29887           | 1.08           | 0.0E+00           | AA418246.1                           | EST_HUMAN             | z08607.31 Scareas_NIHIMPU_S1 Homo sapiens cDNA clone IMAGE:767805 3'  |                    |
|                  |                 |                |                   |                                      |                       | Homo sapiens truncated tenascin XB (TNXB) gene, partial cds and TNXA gene recombination breakpoint region       |                    |
| 4624 17359       |                 | 2.27           | 0.0E+00           | AF088641.1                           | NT                    | Homo sapiens chromosome 21 segment HS21C078   |                    |
| 4629 17364       | 29898           | 1.06           | 0.0E+00           | AL168278.2                           | NT                    | Homo sapiens chromosome 21 segment HS21C078   |                    |
| 4629 17364       | 29899           | 1.06           | 0.0E+00           | AL168278.2                           | NT                    | Homo sapiens mRNA for KIAA1386 protein, partial cds   |                    |
| 4630 17385       | 30000           | 2.72           | 0.0E+00           | AB037820.1                           | NT                    | Homo sapiens mRNA for KIAA1386 protein, partial cds   |                    |
| 4630 17385       | 30001           | 2.72           | 0.0E+00           | AB037820.1                           | NT                    | Homo sapiens mRNA for KIAA1386 protein, partial cds   |                    |
| 4631 17386       | 30002           | 2.67           | 0.0E+00           | MT4089.1                             | NT                    | Human displacement protein (CCAAAT) mRNA  |                    |
| 4635 17370       | 30005           | 1.84           | 0.0E+00           | 6453812                              | NT                    | Homo sapiens butyrophilin, subfamily 2, member A2 (B1N2A2), mRNA  |                    |
| 4635 17370       | 30006           | 1.84           | 0.0E+00           | 6453812                              | NT                    | Homo sapiens butyrophilin, subfamily 2, member A2 (B1N2A2), mRNA  |                    |
| 4636 12850       | 25593           | 0.82           | 0.0E+00           | T56945.1                             | EST_HUMAN             | ya83g04.12 Strategene fetal spleen (#837205) Homo sapiens cDNA clone IMAGE:688310 5'                            |                    |
| 4636 12850       | 25594           | 0.82           | 0.0E+00           | T56945.1                             | EST_HUMAN             | ya83g04.12 Strategene fetal spleen (#837205) Homo sapiens cDNA clone IMAGE:3565521 5'                           |                    |
| 4639 17373       |                 | 1.31           | 0.0E+00           | BE278730.1                           | EST_HUMAN             | 60116803551 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3565521 5'   |                    |
| 4660 17394       | 30028           | 1.33           | 0.0E+00           | U56951.1                             | NT                    | Mus musculus neurexophilin 1 (Neph1) gene, large exon and 3' end of the intron, and partial cds                 |                    |
| 4665 17389       | 30033           | 6.87           | 0.0E+00           | MB08902.1                            | NT                    | Human AHNAK nucleoprotein mRNA, 5' end  |                    |
| 4668 17402       | 30038           | 2.23           | 0.0E+00           | MB9197.1                             | NT                    | Human haptoglobin and haptoglobin-related protein (HP and HPR) genes, complete cds                              |                    |
| 4668 17402       | 30037           | 2.23           | 0.0E+00           | MB9197.1                             | NT                    | Human haptoglobin and haptoglobin-related protein (HP and HPR) genes, complete cds                              |                    |
| 4671 17405       | 30040           | 1.9            | 0.0E+00           | AF184110.1                           | NT                    | Homo sapiens cyclophilin-related protein (NFKTR) gene, complete cds   |                    |
| 4673 17407       | 30042           | 2.02           | 0.0E+00           | 7082181                              | NT                    | Homo sapiens KIAA0563 gene product (KIAA0563), mRNA   |                    |
| 4680 17414       | 30049           | 0.95           | 0.0E+00           | U07583.1                             | NT                    | Human proto-oncogene tyrosine-protein kinase (ABL) gene, exon 1a and exons 2-10, complete cds                   |                    |
| 4681 17415       | 30050           | 0.97           | 0.0E+00           | S71448.1                             | NT                    | SCN1A-brain type I sodium channel alpha-subunit (III5 transmembrane region) [human, placenta, Genomic, 1586 nt] |                    |
| 4681 17415       | 30051           | 0.97           | 0.0E+00           | S71448.1                             | NT                    | Human CYP2D7AP pseudogene for cytochrome P450 2D6   |                    |
| 4682 17426       |                 | 1.45           | 0.0E+00           | X58487.1                             | NT                    | Homo sapiens bromodomain adjacent to zinc finger domain, 2B (BAZ2B), mRNA                                       |                    |
| 4701 17435       | 30065           | 1.05           | 0.0E+00           | 7304922                              | NT                    | Homo sapiens bromodomain adjacent to zinc finger domain, 2B (BAZ2B), mRNA                                       |                    |
| 4701 17435       | 30068           | 1.05           | 0.0E+00           | 7304922                              | NT                    | Human endogenous retrovirus type K (HERV-K), gag, pol and env genes   |                    |
| 4709 17441       | 30073           | 1.4            | 0.0E+00           | AF026801.1                           | NT                    | Homo sapiens alpha-3 type IX collagen (COL9A3) gene, promoter region, and exons 1-28                            |                    |
| 4712 17444       | 30076           | 0.84           | 0.0E+00           | 7018320                              | NT                    | Homo sapiens protein isoform 008 (AD013), mRNA  |                    |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 4712             | 17444           | 30177          | 0.84              | 0.0E+00                              | 70198320              | NT                      | Homo sapiens protein md0008 (AD013), mRNA   |
| 4735             | 17487           | 30103          | 1.88              | 0.0E+00                              | AW/44637.1            | EST_HUMAN               | U14-513-qW-c-04-0-U1.s1 NCI CGAP Sub5 Homo sapiens cDNA clone IMAGE:2753294 3'            |
| 4740             | 17472           |                |                   | 1.82                                 | 0.0E+00               | AF083242.1              | NT  |
| 4750             | 17482           |                |                   | 2.28                                 | 0.0E+00               | M65189.1                | NT  |
| 4780             |                 |                |                   | 2.78                                 | 0.0E+00               | AF240788.1              | NT  |
| 4790             | 17521           |                |                   | 2.02                                 | 0.0E+00               | X877205.1               | NT  |
| 4794             | 17525           | 30147          |                   | 1.11                                 | 0.0E+00               | AF084479.1              | NT  |
| 4786             | 17527           | 30149          |                   | 1.86                                 | 0.0E+00               | AF097418.1              | NT  |
| 4787             | 17528           | 30150          |                   | 3.01                                 | 0.0E+00               | 4503788                 | NT  |
| 4798             | 17529           | 30161          |                   | 13.57                                | 0.0E+00               | 4885048                 | NT  |
| 4800             | 17531           | 30163          |                   | 1.04                                 | 0.0E+00               | P52740                  | SWISSPROT   |
| 4801             | 17532           | 30154          |                   | 5.7                                  | 0.0E+00               | 88223080                | NT  |
| 4805             | 17536           | 30169          |                   | 0.97                                 | 0.0E+00               | 7881679                 | NT  |
| 4809             | 17540           | 30163          |                   | 1.84                                 | 0.0E+00               | M64081.1                | NT  |
| 4810             | 17541           | 30164          |                   | 1.44                                 | 0.0E+00               | X84628.1                | NT  |
| 4810             | 17541           | 30165          |                   | 1.44                                 | 0.0E+00               | X84628.1                | NT  |
| 4812             | 17543           | 30167          |                   | 1.44                                 | 0.0E+00               | X84628.1                | NT  |
| 4812             | 17543           | 30168          |                   | 1.44                                 | 0.0E+00               | AL163280.2              | NT  |
| 4815             | 17546           | 30171          |                   | 2.98                                 | 0.0E+00               |                         | Human TATA box binding protein (TBP)-associated factor, RNA polymerase II, I, 28kD (TAF2) |
| 4815             |                 |                |                   |                                      |                       |                         | Human TATA box binding protein (TBP)-associated factor, RNA polymerase II, I, 28kD (TAF2) |
| 4823             | 17554           | 30176          |                   | 1.17                                 | 0.0E+00               | 6032150                 | NT  |
| 4830             | 17561           | 30183          |                   | 1.08                                 | 0.0E+00               | X822841.1               | NT  |
| 4832             | 17563           | 30185          |                   | 1.91                                 | 0.0E+00               | 4585842                 | NT  |
| 4833             | 17564           | 30188          |                   | 1.81                                 | 0.0E+00               | AB014533.1              | NT  |
| 4834             | 17565           | 30187          |                   | 2.24                                 | 0.0E+00               | 8877848                 | NT  |
| 4835             | 17566           | 30188          |                   | 0.95                                 | 0.0E+00               | 5174580                 | NT  |
| 4836             | 17567           | 30189          |                   | 1.19                                 | 0.0E+00               | 4758169                 | NT  |
| 4838             | 17569           | 30191          |                   | 1.81                                 | 0.0E+00               | 770546                  | NT  |
| 4842             | 17572           | 30193          |                   | 12.62                                | 0.0E+00               | AF055086.1              | NT  |
| 4844             | 17574           |                |                   | 3.47                                 | 0.0E+00               | 4505508                 | NT  |
| 4845             | 17575           | 30189          |                   | 2.39                                 | 0.0E+00               | AF091711.1              | NT  |
| 4858             | 17587           | 30210          |                   | 1.07                                 | 0.0E+00               | D63562.1                | NT  |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon seq ID NO: | ORF seq ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|--|
| 4880             | 17839           | 30212          | 1.68              | 0.0E+00                    | 4503684               | NT                      | Homo sapiens farnesyldiphosphate synthase (farnesylyltransferase, geranylgeranyltransferase) (FDPS) mRNA<br>dihydroxyacetonephosphate acyltransferase, geranylgeranyltransferase, alpha-N-acetylneuraminate: alpha-2,8-sialyltransferase, GD3 synthase (SIALT8) mRNA |
| 4885             | 17224           | 29852          | 1.03              | 0.0E+00                    | 45036952              | NT                      | Homo sapiens sialyltransferase 8 (alpha-N-acetylneuraminate: alpha-2,8-sialyltransferase, GD3 synthase) (SIALT8) mRNA  |
| 4875             | 17802           | 30224          | 3.09              | 0.0E+00                    | AB006925.1            | NT                      | Homo sapiens mRNA for KIAA0287 gene, partial cds   |
| 4875             | 17802           | 30225          | 3.09              | 0.0E+00                    | AB006925.1            | NT                      | Homo sapiens mRNA for KIAA0287 gene, partial cds   |
| 4885             | 17612           | 30232          | 0.85              | 0.0E+00                    | AB026898.1            | NT                      | Homo sapiens DNA, DLEC1 to ORC1L4 gene region, section 1/2 (DLEC1, ORC1L3, ORC1L4 genes, complete cds)   |
| 4889             | 17626           | 30243          | 1.45              | 0.0E+00                    | AL163284.2            | NT                      | Homo sapiens chromosome 21 segment HS21C084  |
| 4908             | 17833           | 30248          | 1.02              | 0.0E+00                    | AW452728.1            | EST_HUMAN               | UH-B13-dN-4-02-0-UJ.s1 NCL CGAP_Sub5 Homo sapiens cDNA clone IMAGE:3068691 3'  |
| 4909             | 17837           | 30251          | 1.61              | 0.0E+00                    | 8922926               | NT                      | Homo sapiens hypothetical protein FLJ11180 (FLJ11180) mRNA   |
| 4912             | 17840           | 30255          | 1.09              | 0.0E+00                    | 4502398               | NT                      | Homo sapiens beaded filament structural protein 1, filamin (BFSP1) mRNA  |
| 4915             | 17843           |                | 4.69              | 0.0E+00                    | U14987.1              | NT                      | Human ribosomal protein L21 mRNA, complete cds   |
| 4924             | 17852           |                | 2.95              | 0.0E+00                    | BE408863.1            | EST_HUMAN               | 601303728F1 NIH_3T3 mRNA clone IMAGE:3638118 5'  |
| 4928             | 17856           | 30268          | 3.18              | 0.0E+00                    | 47581189              | NT                      | Homo sapiens desmoplakin (DP1, DPII) (DSP) mRNA  |
| 4933             | 17881           | 30271          | 1.15              | 0.0E+00                    | 7682401               | NT                      | Homo sapiens KIAA0852 protein (KIAA0852) mRNA  |
| 4938             | 17888           | 30274          | 1.01              | 0.0E+00                    | AB028968.1            | NT                      | Homo sapiens mRNA for KIAA1043 protein, partial cds  |
| 4947             | 17874           | 30283          | 2.34              | 0.0E+00                    | 89223441              | NT                      | Homo sapiens hypothetical protein FLJ20477 (FLJ20477) mRNA   |
| 4947             | 17874           | 30284          | 2.34              | 0.0E+00                    | 89223441              | NT                      | Homo sapiens hypothetical protein FLJ20477 (FLJ20477) mRNA   |
| 4958             | 17883           | 30281          | 0.81              | 0.0E+00                    | AA601248.1            | EST_HUMAN               | no14g09.s1 NCL CGAP_Phe1 Homo sapiens cDNA clone IMAGE:1100704 3' similar to TRE239140 E239140 SPALT PROTEIN ;   |
| 4958             | 17883           | 30282          | 0.81              | 0.0E+00                    | AA601246.1            | EST_HUMAN               | no14g09.s1 NCL CGAP_Phe1 Homo sapiens cDNA clone IMAGE:1100704 3' similar to TRE239140 E239140 SPALT PROTEIN ;   |
| 4958             | 17683           | 30283          | 0.81              | 0.0E+00                    | AA601246.1            | EST_HUMAN               | no14g09.s1 NCL CGAP_Phe1 Homo sapiens cDNA clone IMAGE:1100704 3' similar to TRE239140 E239140 SPALT PROTEIN ;   |
| 4961             | 17688           | 30285          | 1.11              | 0.0E+00                    | AF161463.1            | NT                      | Homo sapiens HSPC114 mRNA, complete cds  |
| 4961             | 17686           | 30286          | 1.11              | 0.0E+00                    | AF161463.1            | NT                      | Homo sapiens HSPC114 mRNA, complete cds  |
| 4973             | 13019           | 25681          | 0.71              | 0.0E+00                    | AF186658.1            | NT                      | Homo sapiens DNA mismatch repair protein (MLH3) gene, complete cds   |
| 4976             | 17689           |                | 0.84              | 0.0E+00                    | AL050253.1            | NT                      | H. sapiens mRNA similar to D29763 mouse mRNA for seizure-related gene product 6. Shares domains with BMPs, Tolloid, Sushi repeat proteins  |
| 4985             | 17708           | 30312          | 1.63              | 0.0E+00                    | AF016705.1            | NT                      | Homo sapiens E6-AP ubiquitin-protein ligase (UBE3A) gene, exon 3   |
| 4986             | 17709           | 30313          | 1.5               | 0.0E+00                    | Y19188.1              | NT                      | Mus musculus mRNA for ezzonin, short spliced variant (ezz gene)  |
| 4986             | 17709           | 30314          | 1.5               | 0.0E+00                    | Y19188.1              | NT                      | Mus musculus mRNA for ezzonin, short spliced variant (ezz gene)  |
| 4994             | 17717           |                | 1.26              | 0.0E+00                    | AL163209.2            | NT                      | Homo sapiens chromosome 21 segment HS21C008  |

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Table 4

## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (T <sub>cap</sub> )-BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--|-----------------------|-------------------------|--|
| 4897             | 17720           |                |                   | 28.03  | D50637.1              | NT                      | Homo sapiens gamma-mitto-cytoplasmic actin (ACTGP3) pseudogene   |
| 5001             | 17724           | 30328          |                   | 0.97   | 0.0E+00 AA084272.1    | EST_HUMAN               | znt03g10.r1 Strategene TNT neuron (#867233) Homo sapiens cDNA clone IMAGE:5464025                            |
| 5001             | 17724           | 30327          |                   | 0.97   | 0.0E+00 AA084272.1    | EST_HUMAN               | znt03g10.r1 Strategene TNT neuron (#867233) Homo sapiens cDNA clone IMAGE:5464025                            |
| 5012             | 16824           | 28553          |                   | 0.95   | 0.0E+00 4507720       | NT                      | Homo sapiens titin (TTN) mRNA  |
| 5012             | 16824           | 28554          |                   | 0.95   | 0.0E+00 4507720       | NT                      | Homo sapiens titin (TTN) mRNA  |
| 5028             | 17747           | 30359          |                   | 3  | 0.0E+00 X52888.1      | NT                      | Bacillus amyloliquefaciens sanB gene for levansucrase (EC 2.4.1.10)  |
| 5042             | 17761           | 30375          |                   | 1.04   | 0.0E+00 AF240635.1    | NT                      | Homo sapiens vascular endothelial cadherin 2 mRNA, complete cds  |
| 5042             | 17781           | 30376          |                   | 1.04   | 0.0E+00 AF240635.1    | NT                      | Homo sapiens vascular endothelial cadherin 2 mRNA, complete cds  |
| 5045             | 17764           | 30380          |                   | 1.55   | 0.0E+00 7857074       | NT                      | Homo sapiens oncotropic viral integration site 2A (EV12A), mRNA  |
| 6045             | 17764           | 30381          |                   | 1.55   | 0.0E+00 7857074       | NT                      | Homo sapiens oncotropic viral integration site 2A (EV12A), mRNA  |
| 6049             | 17768           | 30387          |                   | 1.11   | 0.0E+00 AL163281.2    | NT                      | Homo sapiens chromosome 21 segment HS221C081   |
| 5050             | 17789           | 30388          |                   | 14.05  | 0.0E+00 11421001      | NT                      | Homo sapiens HIF1-like Protein (HIFEL), mRNA   |
| 6052             | 17771           | 30389          |                   | 1.03   | 0.0E+00 4557382       | NT                      | Homo sapiens PR domain containing 1, with ZNF domain (PRDM1) mRNA  |
| 5056             | 17775           | 30391          |                   | 2.76   | 0.0E+00 Y12477.1      | NT                      | Homo sapiens putative GPR37 gene, exon 2   |
| 5058             | 17775           | 30392          |                   | 2.76   | 0.0E+00 Y12477.1      | NT                      | Homo sapiens putative GPR37 gene, exon 2   |
| 5058             | 17777           | 30394          |                   | 1.07   | 0.0E+00 Y08032.1      | NT                      | Human endogenous retrovirus K, LTR US and gag gene   |
| 5079             | 17788           | 30414          |                   | 1.01   | 0.0E+00 8829522       | NT                      | Homo sapiens potassium inwardly-rectifying channel, subfamily J, member 16 (KCNJ16), mRNA                    |
| 5079             | 17788           | 30415          |                   | 1.01   | 0.0E+00 8829522       | NT                      | Homo sapiens potassium inwardly-rectifying channel, subfamily J, member 16 (KCNJ16), mRNA                    |
| 5081             | 17800           | 30417          |                   | 0.78   | 0.0E+00 7706245       | NT                      | Homo sapiens 4F2 light chain (LOC51597), mRNA  |
| 5081             | 17800           | 30418          |                   | 0.78   | 0.0E+00 7706245       | NT                      | Homo sapiens 4F2 light chain (LOC51597), mRNA  |
| 5088             | 17807           | 30423          |                   | 2.69   | 0.0E+00 7857008       | NT                      | Homo sapiens deleted in bladder cancer chromosome region candidate 1 (DBCCR1), mRNA                          |
| 6097             | 17816           | 30433          |                   | 2.05   | 0.0E+00 AB011131.1    | NT                      | Homo sapiens mRNA for KIAA0559 protein, partial cds  |
| 5109             | 17827           | 30444          |                   | 1.23   | 0.0E+00 D49802.1      | NT                      | Mus musculus mRNA for leucine-rich repeat protein, partial cds   |
| 5110             | 17828           | 30445          |                   | 1.14   | 0.0E+00 AF227534.1    | NT                      | Rattus norvegicus multidomain presynaptic cytomatrix protein Piccolo mRNA, complete cds, long splice variant |
| 5111             | 17829           | 30446          |                   | 1.88   | 0.0E+00 AF227534.1    | NT                      | Rattus norvegicus multidomain presynaptic cytomatrix protein Piccolo mRNA, complete cds, long splice variant |
| 5112             | 17830           | 30447          |                   | 0.98   | 0.0E+00 AF245702.1    | NT                      | Homo sapiens toll-like receptor 7 (TLR7) mRNA, complete cds  |
| 5115             | 17833           | 30449          |                   | 6.53   | 0.0E+00 4505986       | NT                      | Homo sapiens microtubule-associated protein 2 (MAP2) mRNA  |
| 5116             | 17834           | 30450          |                   | 1.5  | 0.0E+00 6006002       | NT                      | Homo sapiens glutamate receptor, ionotropic, N-methyl D-aspartate 2A (GRIN2A) mRNA                           |
| 5116             | 17834           | 30451          |                   | 1.5  | 0.0E+00 6006002       | NT                      | Homo sapiens glutamate receptor, ionotropic, N-methyl D-aspartate 2A (GRIN2A) mRNA                           |
| 5117             | 17835           | 30452          |                   | 1.6  | 0.0E+00 AW955819.1    | EST_HUMAN               | EST367889 IMAGE sequences  |
| 5119             | 17837           |                |                   | 1.31   | 0.0E+00 AB040846.1    | NT                      | Homo sapiens mRNA for KIAA1513 protein, partial cds  |
| 5126             | 17844           |                |                   | 1.12   | 0.0E+00 AJ010179.1    | NT                      | Homo sapiens gabab1 receptor gene, exon 6  |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe<br>SEQ ID<br>NO: | Exon<br>SEQ ID<br>NO: | ORF SEQ<br>ID NO: | Expression<br>Signal | Most Similar<br>(Top) Hit<br>BLAST E<br>Value | Top Hit Accession<br>No. | Top Hit<br>Database<br>Source | Top Hit Descriptor   |
|------------------------|-----------------------|-------------------|----------------------|---|--------------------------|-------------------------------|--|
| 5139                   | 17857                 | 30473             | 5.57                 | 0.0E+00                                       | AB027013.1               | NT                            | Homo sapiens mRNA for Nucleosome Assembly Protein 1-like 2, complete cds                   |
| 5150                   | 17881                 | 30477             | 1.19                 | 0.0E+00                                       | AB035358.1               | NT                            | Homo sapiens mRNA for neurodin 1-alpha protein, complete cds                               |
| 5151                   | 17888                 | 30481             | 1.18                 | 0.0E+00                                       | AB029040.1               | NT                            | Homo sapiens mRNA for KIAA1117 protein, partial cds  |
| 5154                   | 17871                 |                   | 1.08                 | 0.0E+00                                       | M61803.1                 | NT                            | Human sodium channel mRNA  |
| 5166                   | 17872                 | 30484             | 1.37                 | 0.0E+00                                       | 5454013                  | NT                            | Homo sapiens ring finger protein 16 (RNF16), mRNA  |
| 5162                   | 17883                 |                   | 3.44                 | 0.0E+00                                       | AF083093.1               | NT                            | Homo sapiens sconitase (ACO2) gene, nuclear gene encoding mitochondrial protein, exon 16   |
| 6172                   | 17981                 | 30485             | 2.52                 | 0.0E+00                                       | AF137286.1               | NT                            | Homo sapiens keratin 12 (KRT12) gene, complete cds   |
| 6172                   | 17981                 | 30486             | 2.52                 | 0.0E+00                                       | AF137286.1               | NT                            | Homo sapiens keratin 12 (KRT12) gene, complete cds   |
| 6192                   | 18000                 | 30823             | 1.29                 | 0.0E+00                                       | AB348654.1               | EST_HUMAN                     | wp08g08_x1 NCI CGAP Kid12 Homo sapiens cDNA clone IMAGE:2484094 3'                         |
| 5185                   | 18003                 | 30826             | 1.77                 | 0.0E+00                                       | 92265679                 | NT                            | Homo sapiens protocadherin alpha 13 (PCDAH13), mRNA  |
| 5209                   | 18017                 | 30639             | 3.81                 | 0.0E+00                                       | BE831080.1               | EST_HUMAN                     | RC3-CN0076-310800-013-b03 GN0078 Homo sapiens cDNA   |
| 5213                   | 18021                 | 30843             | 3                    | 0.0E+00                                       | AF182034.1               | NT                            | Homo sapiens polyzystic kidney disease-like 2 protein (PKD2), mRNA, complete cds           |
| 6213                   | 18021                 | 30844             | 3                    | 0.0E+00                                       | AF182034.1               | NT                            | Homo sapiens polyzystic kidney disease-like 2 protein (PKD2), mRNA, complete cds           |
| 5220                   | 18027                 | 30852             | 1.68                 | 0.0E+00                                       | X58163.1                 | NT                            | H.sapiens Immunoglobulin heavy chain gene, variable region                                 |
| 6220                   | 18027                 | 30853             | 1.68                 | 0.0E+00                                       | X58163.1                 | NT                            | H.sapiens Immunoglobulin heavy chain gene, variable region                                 |
| 6289                   | 18104                 | 30763             | 6.58                 | 0.0E+00                                       | BE675498.1               | EST_HUMAN                     | 7H10c08_x1 NCI CGAP CLL11 Homo sapiens cDNA clone IMAGE:3294250 3'                         |
| 5300                   | 18105                 | 30764             | 1.75                 | 0.0E+00                                       | BE220753.1               | EST_HUMAN                     | h689a02_x1 NCI CGAP Lu24 Homo sapiens cDNA clone IMAGE:3158194 3' similar to SW:Y054_HUMAN |
| 6301                   | 18108                 | 30765             | 1.83                 | 0.0E+00                                       | BE784412.1               | EST_HUMAN                     | P42894 HYPOTHETICAL PROTEIN KIAA0054.;   |
| 6301                   | 18108                 | 30768             | 1.83                 | 0.0E+00                                       | BE784412.1               | EST_HUMAN                     | 601589422F1 NIH MGC_7 Homo sapiens cDNA clone IMAGE:3943804 5'                             |
| 6302                   | 18107                 | 30767             | 0.81                 | 0.0E+00                                       | A189142.1                | EST_HUMAN                     | 601589422F1 NIH MGC_7 Homo sapiens cDNA clone IMAGE:3943804 5'                             |
| 5308                   | 18111                 | 30770             | 6.17                 | 0.0E+00                                       | M28808.1                 | NT                            | Homo sapiens eosinophil peroxidase (EPP) gene, exon 7                                      |
| 5319                   | 28068                 | 30780             | 4.68                 | 0.0E+00                                       | 11421038                 | NT                            | Homo sapiens Sp4 transcription factor (SP4), mRNA  |
| 6329                   | 18132                 |                   | 7.18                 | 0.0E+00                                       | BF663962.1               | EST_HUMAN                     | 6021188228F1 NIH MGC_58 Homo sapiens cDNA clone IMAGE:4276254 5'                           |
| 5330                   | 18133                 | 30781             | 0.73                 | 0.0E+00                                       | AU134406.1               | EST_HUMAN                     | AU134406 OVARC1 Homo sapiens cDNA clone OVARC10011884 5'                                   |
| 5330                   | 18133                 | 30782             | 0.73                 | 0.0E+00                                       | AU134406.1               | EST_HUMAN                     | AU134406 OVARC1 Homo sapiens cDNA clone OVARC10011884 5'                                   |
| 6335                   | 18138                 | 30789             | 1                    | 0.0E+00                                       | BE538857.1               | EST_HUMAN                     | 601061489F1 NIH MGC_10 Homo sapiens cDNA clone IMAGE:3447839 5'                            |
| 5344                   | 18147                 | 30828             | 1.07                 | 0.0E+00                                       | BE282784.1               | EST_HUMAN                     | 60105891F1 NIH MGC_15 Homo sapiens cDNA clone IMAGE:2888310 5'                             |
| 5348                   | 18151                 | 30831             | 1.69                 | 0.0E+00                                       | BF526328.1               | EST_HUMAN                     | 602071372F1 NCI CGAP_Bm84 Homo sapiens cDNA clone IMAGE:4214272 5'                         |
| 6348                   | 18161                 | 30832             | 1.69                 | 0.0E+00                                       | BF526328.1               | EST_HUMAN                     | 602071372F1 NCI CGAP_Bm84 Homo sapiens cDNA clone IMAGE:4214272 5'                         |
| 5367                   | 18491                 | 32513             | 1.82                 | 0.0E+00                                       | 4857384                  | NT                            | Homo sapiens Bloom syndrome (BLM) mRNA   |
| 6370                   | 18171                 | 30853             | 0.91                 | 0.0E+00                                       | AB007035.1               | NT                            | Homo sapiens mRNA for KIAA0468 protein, partial cds  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor |  |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|---|--------------------|--|
|                  |                 |                |                   |                                  |                       |   |                    |  |
| 6370 18171       | 30859           | 0.91           | 0.0E+00           | AB007835.1                       | NT                    | Human sapiens mRNA for KIAA0468 protein, partial cds  |                    |  |
| 6374 18174       | 30863           | 4.85           | 0.0E+00           | AF257737.1                       | NT                    | Human sapiens ciliary dynein heavy chain 9 (DNAH9) mRNA, complete cds                         |                    |  |
| 5374 18174       | 30864           | 4.85           | 0.0E+00           | AF257737.1                       | NT                    | Human sapiens ciliary dynein heavy chain 9 (DNAH9) mRNA, complete cds                         |                    |  |
| 5387 18187       | 30878           | 1.06           | 0.0E+00           | D26835.1                         | NT                    | Human gene for dihydrodopamine succinyltransferase, complete cds (exon 1-15)                  |                    |  |
| 5387 18187       | 30879           | 1.06           | 0.0E+00           | D26835.1                         | NT                    | Human gene for dihydrodopamine succinyltransferase, complete cds (exon 1-15)                  |                    |  |
| 5401 18201       | 30908           | 1.88           | 0.0E+00           | 11420819                         | NT                    | Human sapiens olfactory receptor, family 1 (OR2F1), mRNA                                      |                    |  |
| 5407 18206       | 30912           | 0.81           | 0.0E+00           | Z38533.1                         | NT                    | Human sapiens mRNA for myosin   |                    |  |
| 5428 18226       | 30938           | 0.78           | 0.0E+00           | D61594.1                         | EST_HUMAN             | HUM418D05B Clontech human fetal brain polyA+ mRNA (#85335) Homo sapiens cDNA clone GEN-418D05 | 5'                 |  |
| 5428 18225       | 30937           | 0.78           | 0.0E+00           | D61594.1                         | EST_HUMAN             | HUM418D05B Clontech human fetal brain polyA+ mRNA (#85335) Homo sapiens cDNA clone GEN-418D05 | 5'                 |  |
| 5428 18225       | 30941           | 2.65           | 0.0E+00           | BF529831.1                       | EST_HUMAN             | 602042322F1 NCI CGAP_Bm87 Human sapiens cDNA clone IMAGE-4178888 5'                           |                    |  |
| 5429 18228       | 30942           | 2.55           | 0.0E+00           | BF529831.1                       | EST_HUMAN             | 602042322F1 NCI CGAP_Bm87 Human sapiens cDNA clone IMAGE-4178888 5'                           |                    |  |
| 5429 18228       | 30942           | 2.55           | 0.0E+00           | BF529831.1                       | EST_HUMAN             | 602042322F1 NCI CGAP_Bm87 Human sapiens cDNA clone IMAGE-4178888 5'                           |                    |  |
| 5434 18233       | 30946           | 2.82           | 0.0E+00           | BF313139.1                       | EST_HUMAN             | 601887858F1 NIH_MGC_19 Human sapiens cDNA clone IMAGE-4128815 5'                              |                    |  |
| 5445 18244       | 31132           | 4.37           | 0.0E+00           | 11424392                         | NT                    | Human sapiens calcium channel, voltage-dependent, alpha 1G subunit (CACNA1G), mRNA            |                    |  |
| 5477 18276       | 31171           | 1.15           | 0.0E+00           | BE28077.1                        | EST_HUMAN             | 601150225F1 NIH_MGC_19 Human sapiens cDNA clone IMAGE-3502809 5'                              |                    |  |
| 5498 18285       | 31198           | 3.51           | 0.0E+00           | AW887318.1                       | EST_HUMAN             | MRO-NSN0037-030400-001-107 SN0037 Human sapiens cDNA clone IMAGE-2887803 5'                   |                    |  |
| 5500 18298       | 31198           | 2.33           | 0.0E+00           | BE292889.1                       | EST_HUMAN             | 601105281F1 NIH_MGC_15 Human sapiens cDNA clone IMAGE-2887803 5'                              |                    |  |
| 5500 18298       | 31197           | 2.33           | 0.0E+00           | BE292889.1                       | EST_HUMAN             | 601105281F1 NIH_MGC_16 Human sapiens cDNA clone IMAGE-2887803 5'                              |                    |  |
| 5521 18319       | 31219           | 1.51           | 0.0E+00           | 11420819                         | NT                    | Human sapiens olfactory receptor, family 2, subfamily F, member 1 (OR2F1), mRNA               |                    |  |
| 5521 18319       | 31220           | 1.51           | 0.0E+00           | 11420819                         | NT                    | Human sapiens olfactory receptor, family 2, subfamily F, member 1 (OR2F1), mRNA               |                    |  |
| 5528 18326       | 31228           | 4.35           | 0.0E+00           | AF064254.1                       | NT                    | Human sapiens very long-chain acyl-CoA synthetase homolog 1 mRNA, complete cds                |                    |  |
| 5528 18326       | 31229           | 4.35           | 0.0E+00           | AF064254.1                       | NT                    | Human sapiens very long-chain acyl-CoA synthetase homolog 1 mRNA, complete cds                |                    |  |
| 5535 18333       | 31239           | 2.85           | 0.0E+00           | AJ224639.1                       | NT                    | Human sapiens Surf-5 and Surf-6 genes   |                    |  |
| 5535 18333       | 31240           | 2.95           | 0.0E+00           | AJ224639.1                       | NT                    | Human sapiens Surf-5 and Surf-6 genes   |                    |  |
| 5568 18363       | 31271           | 0.61           | 0.0E+00           | AJ198515.1                       | EST_HUMAN             | EST02238 Feed brain, Strategene (cat#S206) Human cDNA clone HFBGM48                           |                    |  |
| 5570 18367       | 31277           | 6.98           | 0.0E+00           | M85719.1                         | EST_HUMAN             | EST02238 Feed brain, Strategene (cat#S206) Human cDNA clone IMAGE-3081658 5'                  |                    |  |
| 5577 18374       | 31286           | 4.83           | 0.0E+00           | AW405472.1                       | EST_HUMAN             | U1+IF-BL0-adh-d-02-U,1 NIH_MGC_37 Human sapiens cDNA clone IMAGE-4128815                      |                    |  |
| 5590 18386       | 31286           | 1.25           | 0.0E+00           | Z26269.1                         | NT                    | H.sapiens Isoform 1 genes for L-type calcium channel, exon 14 and 15                          |                    |  |
| 5601 18386       | 31306           | 1.94           | 0.0E+00           | CT0283                           | NT                    | PM8-CT0283-091288-007-h5 CT0283 Human sapiens cDNA  |                    |  |
| 5601 18386       | 31307           | 1.94           | 0.0E+00           | AW361877.1                       | EST_HUMAN             | PM8-CT0283-091288-007-h5 CT0283 Human sapiens cDNA  |                    |  |
| 5601 18386       | 31308           | 1.94           | 0.0E+00           | AW361877.1                       | EST_HUMAN             | PM8-CT0283-091288-007-h5 CT0283 Human sapiens cDNA  |                    |  |
| 5605 18401       | 31315           | 2.55           | 0.0E+00           | U362261.1                        | NT                    | Human beta-prime-acidipin (BAM22) gene, exon 13   |                    |  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe Seq ID No: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|--|
|                  |                 |                |                   |                                      |                       |                         |  |  |
| 5636             | 18431           | 31344          | 1.03              | 0.0E+00                              | AB046861.1            | NT                      | Homo sapiens mRNA for KIAA1841 protein, partial cds  |  |
| 5636             | 18431           | 31404          | 1.58              | 0.0E+00                              | AJ005345.1            | NT                      | Homo sapiens KV1.0T1 gene  |  |
| 5636             | 18435           | 31405          | 1.58              | 0.0E+00                              | AJ005345.1            | NT                      | Homo sapiens KV1.0T1 gene  |  |
| 5636             | 18435           | 31416          | 1.19              | 0.0E+00                              | AJ207616.1            | EST_HUMAN               | H42981 Human fetal liver cDNA library Homo sapiens cDNA  |  |
| 5636             | 18433           | 31430          | 6.23              | 0.0E+00                              | 114168901             | NT                      | Homo sapiens proteocadherin beta 2 (PCDHE2), mRNA  |  |
| 5717             | 18509           | 31433          | 1.21              | 0.0E+00                              | BET91173.1            | EST_HUMAN               | Homo sapiens 7 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:3838551 5                                       |  |
| 5722             | 18514           | 31433          | 1.13              | 0.0E+00                              | 9988943               | NT                      | Homo sapiens amiloride-sensitive cation channel 1, neuronal (degenerin) (ACCN1), mRNA                  |  |
| 5731             | 18523           | 31444          | 6.59              | 0.0E+00                              | BE560082.1            | EST_HUMAN               | 601346141FT NIH_MGC_8 Homo sapiens cDNA clone IMAGE:3677643 6  |  |
| 5732             | 18524           | 31445          | 1.67              | 0.0E+00                              | 10048478              | NT                      | Mus musculus eagrin (Auzz), mRNA   |  |
| 5733             | 18525           | 31446          |                   |                                      |                       |                         | Human L-type calcium channel beta-1 subunit (CACNLB1) gene, exon 13B and isoform beta-1B, complete cds |  |
| 6734             | 18526           | 31447          | 4.05              | 0.0E+00                              | U86861.1              | NT                      | Human L-type calcium channel beta-1 subunit (CACNLB1) gene, exon 13B and isoform beta-1B, complete     |  |
| 5734             | 18526           | 31448          | 4.05              | 0.0E+00                              | U86861.1              | NT                      | cds  |  |
| 5734             | 18526           | 31468          | 2.28              | 0.0E+00                              | BF338835.1            | EST_HUMAN               | 602036272F1 NCI_CGAP_Bm84 Homo sapiens cDNA clone IMAGE:4184321 5                                      |  |
| 6752             | 18544           | 31468          | 1.03              | 0.0E+00                              | AF142621.1            | NT                      | Homo sapiens calcium channel gamma 5 subunit (CACNG5) gene, exon 4 and complete cds                    |  |
| 5756             | 18548           | 31469          | 3.06              | 0.0E+00                              | BF273983.1            | EST_HUMAN               | 601104462F1 NIH_MGC_141 Homo sapiens cDNA clone IMAGE:3347463 5  |  |
| 5757             | 18549           | 31470          |                   |                                      |                       |                         | 601104462F1 NIH_MGC_141 Homo sapiens cDNA clone IMAGE:3214581 3' similar to TR-022084 Q62084           |  |
| 5768             | 18559           | 31486          | 0.88              | 0.0E+00                              | BE503098.1            | EST_HUMAN               | h28d11.x1 NCI CGAP_L124 Homo sapiens cDNA clone IMAGE:3278540 5'                                       |  |
| 5773             | 18584           | 31483          | 1.87              | 0.0E+00                              | BF568905.1            | EST_HUMAN               | 602185852F1 NIH_MGC_45 Homo sapiens cDNA clone IMAGE:311883 3'   |  |
| 6778             | 18569           | 31497          | 1.21              | 0.0E+00                              | AA454642.1            | EST_HUMAN               | 2089d06_s1 Scores NIH_HPU_S1 Homo sapiens cDNA clone IMAGE:2745245 3'                                  |  |
| 5811             | 18600           | 31528          | 2.38              | 0.0E+00                              | AF217289.1            | NT                      | Homo sapiens cadherin 20 (CDH20) mRNA, complete cds  |  |
| 5813             | 18602           | 31530          | 1.75              | 0.0E+00                              | BE828144.1            | EST_HUMAN               | RC5-ET0027-210803-022-G10 ET0027 Homo sapiens cDNA   |  |
| 5818             | 18607           | 31535          | 2.27              | 0.0E+00                              | BE988636.1            | EST_HUMAN               | RC5-ET0027-210803-022-G10 ET0027 Homo sapiens cDNA clone IMAGE:3930453 5                               |  |
| 5831             | 18620           | 31552          | 0.55              | 0.0E+00                              | BE873988.1            | EST_HUMAN               | 601645287F1 NIH_MGC_56 Homo sapiens cDNA clone IMAGE:3278540 3' similar to SW:DAX1_HUMAN               |  |
| 5831             | 18620           | 31553          | 0.55              | 0.0E+00                              | BE673988.1            | EST_HUMAN               | P51843 ORPHAN NUCLEAR RECEPTOR DAX-1, [1]:   |  |
| 5836             | 18625           | 31559          | 1.14              | 0.0E+00                              | AW2776760.1           | EST_HUMAN               | P51843 ORPHAN NUCLEAR RECEPTOR DAX-1, [1]:   |  |
| 5847             | 18634           | 31571          | 1.16              | 0.0E+00                              | BF031742.1            | EST_HUMAN               | P51843 ORPHAN NUCLEAR RECEPTOR DAX-1, [1]:   |  |
| 5847             | 18634           | 31572          | 1.16              | 0.0E+00                              | BF031742.1            | EST_HUMAN               | 7d72e11.x1 NCI CGAP_L124 Homo sapiens cDNA clone IMAGE:2745245 3' similar to TR-Q8Z1N3                 |  |
| 5859             | 18646           | 31587          | 0.58              | 0.0E+00                              | AW470848.1            | EST_HUMAN               | 601558060F1 NIH_MGC_58 Homo sapiens cDNA clone IMAGE:2875595 3' similar to TR-Q8Z1N3                   |  |
| 5872             | 18659           | 31599          | 0.77              | 0.0E+00                              | BF155670.1            | EST_HUMAN               | QV4-HT0884-280800-399-#10 HT0894 Homo sapiens cDNA   |  |

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Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--------------------|
| 5872             | 18859           | 31600          | 0.77              | 0.0E+00 BF_153670.1                  | EST_HUMAN             | QV4-HT0894-280900-338-410 HT0894 Homo sapiens cDNA clone IMAGE:321755 5  |                    |
| 5873             | 18684           | 31604          | 3.22              | 0.0E+00 W_33069.1                    | EST_HUMAN             | z=08108.1 Soares, parathyroid tumor, NHPA_Homo sapiens cDNA clone IMAGE:321755 5   |                    |
| 5873             | 18684           | 31605          | 3.22              | 0.0E+00 W_33069.1                    | EST_HUMAN             | z=08108.1 Soares, parathyroid tumor, NHPA_Homo sapiens cDNA clone IMAGE:321755 5   |                    |
| 5879             | 18685           |                | 2.51              | 0.0E+00 AF012818.1                   | NT                    | Homo sapiens familial mental retardation protein 2 (FMFR2) gene, exon 14   |                    |
| 5882             | 18688           | 31609          | 3.33              | 0.0E+00 BE_280197.1                  | EST_HUMAN             | 601168315F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3505323 5   |                    |
| 5890             | 18675           | 31620          | 2.8               | 0.0E+00 BE_8898610.1                 | EST_HUMAN             | 601512630F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:3814238 5   |                    |
| 5905             | 18690           | 31639          | 0.8               | 0.0E+00 AW7522948.1                  | EST_HUMAN             | IL3-C70220-111189-028-E04 CT0220 Homo sapiens cDNA   |                    |
| 5908             | 18692           | 31641          | 1.1               | 0.0E+00                              | 11433071 NT           | Homo sapiens KIAA0735 gene product; synaptic vesicle protein 2B homolog (KIAA0735), mRNA   |                    |
| 5908             | 18692           | 31642          | 1.1               | 0.0E+00                              | 11433071 NT           | Homo sapiens KIAA0735 gene product; synaptic vesicle protein 2B homolog (KIAA0735), mRNA   |                    |
| 5909             | 18693           | 31643          | 0.88              | 0.0E+00 BE_901608.1                  | EST_HUMAN             | 601677735F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3860200 5   |                    |
| 5909             | 18693           | 31644          | 0.88              | 0.0E+00 BE_901608.1                  | EST_HUMAN             | 601677735F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3860200 5   |                    |
| 5909             | 18693           | 31645          | 0.88              | 0.0E+00 BE_901608.1                  | EST_HUMAN             | 601677735F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3860200 5   |                    |
| 5923             | 25081           | 31661          | 10.68             | 0.0E+00                              | 97899863 NT           | Homo sapiens potassium voltage-gated channel, Shal-related subfamily, member 2 (KCND2), mRNA   |                    |
| 6028             | 19710           | 31664          | 1.2               | 0.0E+00 AA163506.1                   | EST_HUMAN             | z=40101.1 Soares_NhMPU_S1 Homo sapiens cDNA clone IMAGE:685905 5 similar to SW:YY05_HUMAN P426894 HYPOTHETICAL MYELOID CELL LINE PROTEIN 6.; |                    |
| 5926             | 18710           | 31665          | 1.2               | 0.0E+00 AA163506.1                   | EST_HUMAN             | z=40101.1 Soares_NhMPU_S1 Homo sapiens cDNA clone IMAGE:685905 5 similar to SW:YY05_HUMAN P426894 HYPOTHETICAL MYELOID CELL LINE PROTEIN 5.; |                    |
| 6948             | 18730           | 31689          | 18.77             | 0.0E+00 U34625.1                     | NT                    | Human T cell surface glycoprotein CD-6 mRNA, complete cds  |                    |
| 5948             | 18730           | 31689          | 18.77             | 0.0E+00 U34625.1                     | NT                    | Human T cell surface glycoprotein CD-6 mRNA, complete cds  |                    |
| 5987             | 18788           | 31732          | 0.89              | 0.0E+00 BE_258330.1                  | EST_HUMAN             | 601114623F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3355385 5   |                    |
| 6997             | 18778           | 31740          | 1.2               | 0.0E+00 BE_1686581.1                 | EST_HUMAN             | QV0-HT0368-000200-088-469 HT0368 Homo sapiens cDNA   |                    |
| 6007             | 18788           | 31750          | 0.85              | 0.0E+00 M38107.1                     | NT                    | Human neurofibromatosis type 1 (NF-1) mRNA, 3' end of cds  |                    |
| 6040             | 18820           | 31781          | 1.32              | 0.0E+00 BE_3179007.1                 | EST_HUMAN             | 601236276F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3608490 5   |                    |
| 6046             | 18826           | 31787          | 1.39              | 0.0E+00 AU137772.1                   | EST_HUMAN             | AU137772 PLACE11 Homo sapiens cDNA clone PLACE1007201 5  |                    |
| 6056             | 18845           | 31809          | 3.76              | 0.0E+00 U456982.1                    | NT                    | Human G protein-coupled receptor GPR-8-8 gene, complete cds  |                    |
| 6094             | 18872           | 31839          | 4.52              | 0.0E+00 AA204740.1                   | EST_HUMAN             | z=81d03.1 Strategene hNT neuron (#837233) Homo sapiens cDNA clone IMAGE:6480005 5 similar to TR_C854195 G854195 LEUKOCYTE SURFACE PROTEIN.;  |                    |
| 6095             | 18873           | 31840          | 3.97              | 0.0E+00                              | 11545913 NT           | Homo sapiens xylosidase II (X12), mRNA   |                    |
| 6095             | 18873           | 31841          | 3.97              | 0.0E+00                              | 11545913 NT           | Homo sapiens xylosidase II (X12), mRNA   |                    |
| 6129             | 18907           | 31875          | 1.14              | 0.0E+00                              | 11426367 NT           | Homo sapiens carnoembryonic antigen-related cell adhesion molecule 8 (CEACAM8), mRNA   |                    |
| 6133             | 18911           | 31880          | 2.87              | 0.0E+00 BE257173.1                   | EST_HUMAN             | 601109532F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3350622 5   |                    |
| 6147             | 18924           |                | 0.85              | 0.0E+00 A6868048.1                   | EST_HUMAN             | t99f10_x1 NCI_OGAP_P128 Homo sapiens cDNA clone IMAGE:2248393 similar to TR:Q14839 Q14839 MI-2 PROTEIN.;                                     |                    |

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**Table 4**  
**Single Exon Probes Expressed In Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|--|--------------------|
| 6151             | 18928           | 31897          | 1.53              | 0.0E+00 L356830.1          | NT                    | Human anion exchanger (AE1) gene, exons 1-20   |                    |
| 6159             | 18936           | 31903          | 1.22              | 0.0E+00 BE797385.1         | EST_HUMAN             | 601587971F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:3942329 5'                               |                    |
| 6159             | 18936           | 31904          | 1.22              | 0.0E+00 BE797385.1         | EST_HUMAN             | 601587971F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:3942329 5'                               |                    |
| 6170             | 18947           | 31819          | 0.57              | 0.0E+00 AI188025.1         | EST_HUMAN             | q50511_x1 NCI CGAP_Bm25 Homo sapiens cDNA clone IMAGE:1858901 5' similar to TR-Q12838 Q12838 |                    |
| 6170             | 18947           | 31920          | 0.57              | 0.0E+00 AI188025.1         | EST_HUMAN             | q50511_x1 NCI CGAP_Bm25 Homo sapiens cDNA clone IMAGE:1858901 5' similar to TR-Q12838 Q12838 |                    |
| 6172             | 18949           | 31921          | 0.85              | 0.0E+00 BF357123.1         | EST_HUMAN             | MR0-HT0923-220800-102-b05 HT0823 Homo sapiens cDNA   |                    |
| 6180             | 18957           | 31931          | 1.08              | 0.0E+00 11495630 NT        | EST_HUMAN             | Homo sapiens peptide transporter 3 (LOC51286), mRNA  |                    |
| 6189             | 18988           | 31939          | 0.65              | 0.0E+00 D55649.1           | NT                    | Human mRNA for alpha mannosidase II isozyme, complete cds                                    |                    |
| 6207             | 18982           | 31961          | 1.03              | 0.0E+00 AW178142.1         | EST_HUMAN             | IL3-HT0062-010889-014-A04 HT0082 Homo sapiens cDNA   |                    |
| 6228             | 18902           | 31978          | 0.68              | 0.0E+00 BE674544.1         | EST_HUMAN             | 7e02c12-x1 NCI CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3281302 3' similar to SW:178_HUMAN    |                    |
| 6232             | 18906           | 31983          | 1.33              | 0.0E+00 7862039 NT         | EST_HUMAN             | Q14881 HYPOTHETICAL PROTEIN KIA0178; Homo sapiens KIA0285 gene product (KIA0285), mRNA       |                    |
| 6248             | 18920           |                | 8.59              | 0.0E+00 AV650020 GLC       | EST_HUMAN             | Homo sapiens cDNA clone GLGCCAD08 3'   |                    |
| 6254             | 18928           | 32003          | 3.13              | 0.0E+00 AW755938.1         | EST_HUMAN             | UHF-BLD-sec-g-120-U1_s1 NIH_MGC_37 Homo sapiens cDNA clone IMAGE:3089751 3'                  |                    |
| 6257             | 18931           | 32006          | 6.26              | 0.0E+00 H01255.1           | EST_HUMAN             | Y27503_r1 Soares placenta Nb2HP Homo sapiens cDNA clone IMAGE:1498633 5'                     |                    |
| 6259             | 18942           | 32019          | 1.6               | 0.0E+00 X15377.1           | NT                    | Human gene for the light and heavy chains of myeloperoxidase                                 |                    |
| 6271             | 18944           | 32024          | 0.65              | 0.0E+00 AA456375.1         | EST_HUMAN             | aa14607_r1 Soares_NHMPu_S1 Homo sapiens cDNA clone IMAGE:813262 5'                           |                    |
| 6272             | 19045           | 32022          | 1.3               | 0.0E+00 A612841.1          | EST_HUMAN             | tz57408_x1 NCI CGAP_Q-35 Homo sapiens cDNA clone IMAGE:2202687 3' similar to SW:NTC3_HUMAN   |                    |
| 6278             | 18951           | 32028          | 4.71              | 0.0E+00 BE735989.1         | EST_HUMAN             | P33788 SODIUM- AND CHLORIDE-DEPENDENT CREATINE TRANSPORTER 2;                                |                    |
| 6278             | 18951           | 32029          | 4.71              | 0.0E+00 BE735989.1         | EST_HUMAN             | 601305388F1 NIH_MGC_39 Homo sapiens cDNA clone IMAGE:3639816 5'                              |                    |
| 6282             | 18955           | 32035          | 0.86              | 0.0E+00 AW748598.1         | EST_HUMAN             | MRI-B70284-221189-002-f1 BT0284 Homo sapiens cDNA  |                    |
| 6282             | 18955           | 32036          | 0.86              | 0.0E+00 AW748598.1         | EST_HUMAN             | MR0-BT0284-221189-002-f11 BT0284 Homo sapiens cDNA   |                    |
| 6283             | 18958           |                | 0.6               | 0.0E+00 U77628.1           | NT                    | Homo sapiens Achaeus-Solute homologue 2 (ASCL2) gene, complete cds                           |                    |
| 6285             | 18958           | 32038          | 15.59             | 0.0E+00 AU118245.1         | EST_HUMAN             | AU118245 HEMBA1 Homo sapiens cDNA clone HEMBA1005380 5'                                      |                    |
| 6285             | 18958           | 32039          | 16.69             | 0.0E+00 AU118245.1         | EST_HUMAN             | AU118245 HEMBA1 Homo sapiens cDNA clone HEMBA1005380 5'                                      |                    |
| 6289             | 18982           | 32044          | 0.8               | 0.0E+00 BE780453.1         | EST_HUMAN             | 60148712F1 NIH_MGC_87 Homo sapiens cDNA clone IMAGE:3871886 5'                               |                    |
| 6289             | 18983           | 32045          | 1.12              | 0.0E+00 XB2217.1           | NT                    | H_sapiens gemline Immunoglobulin heavy chain, variable region, (13-2)                        |                    |
| 6304             | 18976           | 32062          | 1.52              | 0.0E+00 AI889483.1         | EST_HUMAN             | W628c07_x1 NCI CGAP_GC6 Homo sapiens cDNA clone IMAGE:2498220 3'                             |                    |
| 6317             | 18988           | 32072          | 6.91              | 0.0E+00 BE283163.1         | EST_HUMAN             | 60105344F1 NIH_MGC_15 Homo sapiens cDNA clone IMAGE:2887863 5'                               |                    |
| 6317             | 18988           | 32073          | 6.91              | 0.0E+00 BE283153.1         | EST_HUMAN             | 60105344F1 NIH_MGC_15 Homo sapiens cDNA clone IMAGE:2887863 5'                               |                    |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | Expression Signal | Top Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor  |
|------------------|-----------------|-------------------|-----------------------|-----------------------|--|---|
| 6355 19125       | 32119           | 0.58              | 0.0E+00               | BF057428.1            | EST_HUMAN  | 7k43n05.x1 NCL_CGAP_Ov18 Homo sapiens cDNA clone IMAGE:3478498 3' similar to TR:O14553 O14553   |
| 6388 19157       | 32157           | 1.89              | 0.0E+00               | AW405348.1            | EST_HUMAN  | UHF-BLO_800-H-02-0-U1-1 NIH_MGC_37 Homo sapiens cDNA clone IMAGE:3059831 5'   |
| 6388 19157       | 32158           | 1.89              | 0.0E+00               | AW405348.1            | EST_HUMAN  | UHF-BLO_800-H-02-0-U1-1 NIH_MGC_37 Homo sapiens cDNA clone IMAGE:3059831 5'   |
| 6318 19186       | 32184           | 0.79              | 0.0E+00               | AV719444.1            | EST_HUMAN  | AV719444 GLC Homo sapiens cDNA clone GLCEHC06 5'  |
| 6327 19186       | 32191           | 0.93              | 0.0E+00               | BE898340.1            | EST_HUMAN  | 601681150F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:3851301 5'  |
| 6327 19186       | 32192           | 0.93              | 0.0E+00               | BE898340.1            | EST_HUMAN  | 601681150F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:3851301 5'  |
| 6350 19198       | 32195           | 2.24              | 0.0E+00               | AF190830.1            | NT   | Homo sapiens low voltage-activated T-type calcium channel alpha 1G splice variant Cav1.1a (CACNA1G) mRNA, complete cds                    |
| 6353 19201       | 32197           | 1.17              | 0.0E+00               | 114203658 NT          | Homosapiens transformation/transcription domain-associated protein (TRRAP), mRNA |   |
| 6440 19208       | 32204           | 7.5               | 0.0E+00               | AW163840.1            | EST_HUMAN  | sls6n08.y1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2784159 5' similar to TR:O16380 O15380 GT24. [3] TR:O43840 TR:O43208 |
| 6440 19208       | 32205           | 7.5               | 0.0E+00               | AW163840.1            | EST_HUMAN  | sls6n08.y1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2784159 5' similar to TR:O16380 O15380 GT24. [3] TR:O43840 TR:O43208 |
| 6444 19212       | 32209           | 0.97              | 0.0E+00               | W37163.1              | EST_HUMAN  | 2520806.r1 Soares_fetal_lung_NbHL19N Human Q02386 Zinc finger protein 45;   |
| 6444 19212       | 32209           | 0.97              | 0.0E+00               | W37163.1              | EST_HUMAN  | 2520806.r1 Soares_fetal_lung_NbHL19N Human Q02386 Zinc finger protein 45;   |
| 6458 19226       | 32226           | 1.08              | 0.0E+00               | BE794853.1            | EST_HUMAN  | 601588371F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:3841847 5'  |
| 6458 19226       | 32226           | 5.81              | 0.0E+00               | BE798873.1            | EST_HUMAN  | 601587901F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:3841847 5'  |
| 6457 19234       | 32234           | 0.56              | 0.0E+00               | BE787956.1            | EST_HUMAN  | QV1-QN0085-14080-0-318-H02 GN0085 Homo sapiens cDNA   |
| 6457 19234       | 32235           | 0.56              | 0.0E+00               | BE787955.1            | EST_HUMAN  | QV1-QN0085-14080-0-318-H02 GN0085 Homo sapiens cDNA   |
| 6471 19238       | 32238           | 6.85              | 0.0E+00               | BE889813.1            | EST_HUMAN  | 601512058F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:3813311 5'   |
| 6471 19238       | 32239           | 6.85              | 0.0E+00               | BE889813.1            | EST_HUMAN  | 601512058F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:3813311 5'   |
| 6480 19247       | 32247           | 5.62              | 0.0E+00               | L24493.1              | NT   | Human antigen CD27 gene, exons 1-2  |
| 6485 19252       | 32251           | 1.98              | 0.0E+00               | AL163204.2            | NT   | Homosapiens chromosome 21 segment HS21C004  |
| 6485 19252       | 32252           | 1.98              | 0.0E+00               | AL163204.2            | NT   | Homosapiens chromosome 21 segment HS21C004  |
| 6491 19258       | 32259           | 4.08              | 0.0E+00               | 6005983 NT            | Homosapiens zona pellucida glycoprotein 3A (sperm receptor) (ZP3A), mRNA         |   |
| 6494 19260       | 32261           | 4.76              | 0.0E+00               | AI638412.1            | EST_HUMAN  | I31f11.21 NCL_CGAP_G08 Homo sapiens cDNA clone IMAGE:2242413 3' similar to SW:WN73_MOUSE P17553 WNT-3 PROTO-ONCOGENE PROTEIN PRECURSOR.;  |
| 6495 19261       | 32262           | 1.38              | 0.0E+00               | L528392.1             | NT   | Homosapiens zinc finger homeodomain protein (ATBF1-A) mRNA, complete cds  |
| 6507 19272       | 32273           | 4.12              | 0.0E+00               | AA434984.1            | EST_HUMAN  | ZW2503.1f1 Soares_fetal_fetus_Nb2Hf3 3w Homo sapiens cDNA clone IMAGE:773688 5'   |
| 6520 19288       |                 | 0.89              | 0.0E+00               | BF217200.1            | EST_HUMAN  | 601885317F1 NIH_MGC_57 Homo sapiens cDNA clone IMAGE:4103683 5'   |
| 6523 19289       | 32283           | 1.82              | 0.0E+00               | BE925875.1            | EST_HUMAN  | QV3-BN0047-3008800-278-d08 BN0047 Homo sapiens cDNA   |

Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|---|
| 8854             | 18819           | 32325          | 1.11              | 0.0E+00                          | 11426758              | NT                      | Homo sapiens solute carrier family 1 (high affinity aspartate/glutamate transporter), member 6 (SLC1A6), mRNA               |
| 8854             | 18819           | 32328          | 1.11              | 0.0E+00                          | 11426758              | NT                      | Homo sapiens solute carrier family 1 (high affinity aspartate/glutamate transporter), member 6 (SLC1A6), mRNA               |
| 8871             | 18835           | 32348          | 1.6               | 0.0E+00                          | AU125928              | NT2RM4002430 5'         | AU125928 NT2RM4002430 5'  |
| 8873             | 18837           | 32348          | 1.88              | 0.0E+00                          | BE701434.1            | EST_HUMAN               | PM2_NN0174_280700_001-h10 Homo sapiens cDNA   |
| 8873             | 18837           | 32349          | 1.88              | 0.0E+00                          | BE701434.1            | EST_HUMAN               | PM2_NN0174_280700_001-h10 Homo sapiens cDNA   |
| 8894             | 18857           | 32371          | 1.67              | 0.0E+00                          | BE142263.1            | EST_HUMAN               | CMD-HT0143_270898-062-d08 HT0143 Homo sapiens cDNA  |
| 8894             | 18877           | 32391          | 1.44              | 0.0E+00                          | BE008012.1            | EST_HUMAN               | RC0-BN0121_280300_032-e04 BN0121 Homo sapiens cDNA  |
| 8894             | 18877           | 32392          | 1.44              | 0.0E+00                          | BE008012.1            | EST_HUMAN               | RC0-BN0121_280300_032-e04 BN0121 Homo sapiens cDNA  |
| 8838             | 19400           | 32415          | 8.38              | 0.0E+00                          | BE169131.1            | EST_HUMAN               | PM3-HT0520_230200_002-c08 HT0520 Homo sapiens cDNA  |
| 8840             | 19402           | 32417          | 1.83              | 0.0E+00                          | BF085067.1            | EST_HUMAN               | IL5_GN0032-180800-145-d07 GN0032 Homo sapiens cDNA  |
| 8878             | 19855           | 32833          | 3.49              | 0.0E+00                          | AA190755.1            | EST_HUMAN               | NP88683.11 Strategene HeLa cell sc-537216 Homo sapiens cDNA clone IMAGE:827282 5'   |
| 8890             | 19857           | 32847          | 0.84              | 0.0E+00                          | U39573.1              | NT                      | Human sialin parotidose mRNA, complete cds  |
| 8893             | 19810           | 32849          | 0.91              | 0.0E+00                          | BE671987.1            | EST_HUMAN               | 7e49b07_x1 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE:3222037 3' similar to TRQ8Z285 Q8Z285                                 |
| 8703             | 19818           | 32860          | 6.69              | 0.0E+00                          | AI940621.1            | EST_HUMAN               | IL3-ST0024-230789-001-B01 ST0024 Homo sapiens cDNA  |
| 8703             | 19818           | 32861          | 6.69              | 0.0E+00                          | AI940621.1            | EST_HUMAN               | IL3-ST0024-230789-001-B01 ST0024 Homo sapiens cDNA  |
| 8714             | 19829           | 32874          | 1.91              | 0.0E+00                          | 11435628              | NT                      | Homo sapiens CD6 antigen (CD6), mRNA  |
| 8728             | 19850           | 32592          | 0.98              | 0.0E+00                          | AI042443.1            | EST_HUMAN               | DKFZp434D2021_r1_434 (synonym: hesc3) Homo sapiens cDNA clone DKFZp434D2021 5'  |
| 8729             | 19853           | 32595          | 0.9               | 0.0E+00                          | AI168220.1            | EST_HUMAN               | c010d01-x1 Soares_NSF_F8_9W_OT_PA_P_S1 Homo sapiens cDNA clone IMAGE:1585761 3' similar to TEKTIN, TEKTIN, TEKTIN C1 ;      |
| 8734             | 19858           | 32820          | 0.83              | 0.0E+00                          | BE734087.1            | EST_HUMAN               | TR-Q286223 Q286223 TEKTIN C1 ;  |
| 8752             | 17921           | 30558          | 1.68              | 0.0E+00                          | BE568381.1            | EST_HUMAN               | 601567370F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3842080 5'   |
| 8761             | 17930           | 30565          | 11.84             | 0.0E+00                          | BE887889.1            | EST_HUMAN               | 601338977F1 NIH_MGC_53 Homo sapiens cDNA clone IMAGE:3882287 5'   |
| 8761             | 17930           | 30568          | 11.84             | 0.0E+00                          | BE887889.1            | EST_HUMAN               | 6014436867F1 NIH_MGC_65 Homo sapiens cDNA clone IMAGE:3847697 5'  |
| 8768             | 18510           | 32535          | 2.2               | 0.0E+00                          | BE550162.1            | EST_HUMAN               | 7b48f03_x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3231581 3' similar to SW:GG35_HUMAN Q08379 GOLGIN-65;                |
| 8768             | 18510           | 32536          | 2.2               | 0.0E+00                          | BE550162.1            | EST_HUMAN               | 7b48f03_x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:3231581 3' similar to SW:GG35_HUMAN Q08379 GOLGIN-65;                |
| 8790             | 19534           | 32562          | 1.25              | 0.0E+00                          | BFO888376.1           | EST_HUMAN               | CM1-HT0877-050890-397-911 HT0877 Homo sapiens cDNA  |
| 8798             | 19540           | 32568          | 2.48              | 0.0E+00                          | AA195106.1            | EST_HUMAN               | Z34g03_x1 Soares_NHMPU_S1 Homo sapiens cDNA clone IMAGE:686332 6'   |
| 8803             | 19464           |                | 12.37             | 0.0E+00                          | 11034810              | NT                      | Homo sapiens catenin (cadherin-associated protein), delta 2 (neural plakophilin-related arm-repeat protein) (CTNNND2), mRNA |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|--|--|
| 6805             | 19468           | 32487          | 1.08              | 0.0E+00                          | 11431474 NT           | Homo sapiens sodium channel, nonvoltage-gated 1, beta (Little syndrome) (SCNN1B), mRNA |  |
| 6807             | 19468           | 32490          | 0.6               | 0.0E+00                          | BE313076.1            | EST_HUMAN  | 6011505682F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE-35003391 5'  |
| 6807             | 19468           | 32491          | 0.6               | 0.0E+00                          | BE313075.1            | EST_HUMAN  | 6011505682F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE-35003391 5'  |
| 6822             | 19483           | 32505          | 2.69 :            | 0.0E+00                          | BF5689805.1           | EST_HUMAN  | 602185352F1 NIH_MGC_45 Homo sapiens cDNA clone IMAGE-4310076 5'  |
| 6837             | 19489           |                | 2.32              | 0.0E+00                          | J03069.1              | NT   | Human NCX1.2 gene, complete cds  |
| 6845             | 19545           | 32573          | 3.52              | 0.0E+00                          | AF217289.1            | NT   | Homo sapiens cadherin-20 (CDH20), mRNA, complete cds   |
| 6845             | 19545           | 32574          | 3.52              | 0.0E+00                          | AF217289.1            | NT   | Homo sapiens cadherin-20 (CDH20), mRNA, complete cds   |
| 6846             | 19546           | 32575          | 1.18              | 0.0E+00                          | MS8113.1              | NT   | Human neurofibromatosis type 1 gene, exon x6   |
| 6858             | 178325          | 30571          | 3.2               | 0.0E+00                          | 11420775 NT           | Home sapiens melanoma antigen, family B, 2 (MAGEB2), mRNA                              |  |
| 6859             | 178326          | 30572          | 0.74              | 0.0E+00                          | AI419869.1            | EST_HUMAN  | tg53c06xrl Scarees_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE-2112490 3' similar to SW-OXYB_HUMAN P22059 OXYSTEROL-BINDING PROTEIN . |
| 6859             | 178326          | 30573          | 0.74              | 0.0E+00                          | AI419869.1            | EST_HUMAN  | tg53c06xrl Scarees_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE-2112490 3' similar to SW-OXYB_HUMAN P22059 OXYSTEROL-BINDING PROTEIN . |
| 6883             | 17940           | 30578          | 0.73              | 0.0E+00                          | BE256708.1            | EST_HUMAN  | 6011551516F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE-3356330 5'   |
| 6874             | 17850           | 30546          | 0.58              | 0.0E+00                          | BE904955.1            | EST_HUMAN  | 601498743F1 NIH_MGC_70 Homo sapiens cDNA clone IMAGE-3888739 5'  |
| 6884             | 17850           | 30514          | 1.05              | 0.0E+00                          | AU18478.1             | EST_HUMAN  | AU18478.1 HEMBA1 Homo sapiens cDNA clone HEMBA1003870 5'   |
| 6887             | 17853           | 30518          | 8.03              | 0.0E+00                          | BE262941.1            | EST_HUMAN  | 6011488954F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE-3501829 5'   |
| 6888             | 17854           | 30518          | 2.23              | 0.0E+00                          | Z37978.1              | NT   | H_sapiens mRNA for latent transforming growth factor-beta binding protein (LTBP-2)   |
| 6888             | 17854           | 30820          | 2.23              | 0.0E+00                          | Z37978.1              | NT   | H_sapiens mRNA for latent transforming growth factor-beta binding protein (LTBP-2)   |
| 6889             | 17865           | 30521          | 3.28              | 0.0E+00                          | AF237737.1            | NT   | Homo sapiens cilary dynein heavy chain 9 (DNA-9) mRNA, complete cds  |
| 6889             | 17865           | 30522          | 3.23              | 0.0E+00                          | AF237737.1            | NT   | Homo sapiens cilary dynein heavy chain 9 (DNA-9) mRNA, complete cds  |
| 6884             | 17870           | 30527          | 1.08              | 0.0E+00                          | AF310105.1            | NT   | Homo sapiens NALP1 mRNA, complete cds  |
| 6889             | 19637           | 32681          | 1.03              | 0.0E+00                          | BE782770.1            | EST_HUMAN  | QY3-NT0022-140600-223-01 NT022 Homo sapiens cDNA   |
| 6904             | 18842           | 32687          | 2.37              | 0.0E+00                          | BF5689805.1           | EST_HUMAN  | 602185852F1 NIH_MGC_45 Homo sapiens cDNA clone IMAGE-4310076 5'  |
| 6908             | 18846           | 32692          | 4.53              | 0.0E+00                          | L01978.1              | NT   | Human type IV sodium channel alpha polypeptide (SCN4A) gene, exon 18   |
| 6913             | 18650           | 32698          | 0.79              | 0.0E+00                          | AW502362.1            | EST_HUMAN  | U+HF-BR0p-aka-d-10-U..1 NIH_MGC_52 Homo sapiens cDNA clone IMAGE-3076290 5'  |
| 6913             | 19650           | 32697          | 0.78              | 0.0E+00                          | AW502362.1            | EST_HUMAN  | U+HF-BR0p-aka-d-10-U..1 NIH_MGC_52 Homo sapiens cDNA clone IMAGE-3076290 5'  |
| 6922             | 19653           | 32704          | 0.7               | 0.0E+00                          | AL039581.1            | EST_HUMAN  | DKFZp434D2211_1 r1 434 (synonym: hies3) Homo sapiens cDNA clone DKFZp434D2211_5  |
| 6922             | 19653           | 32705          | 0.7               | 0.0E+00                          | AL039581.1            | EST_HUMAN  | DKFZp434D2211_1 r1 434 (synonym: hies3) Homo sapiens cDNA clone IMAGE-4123948 5'   |
| 6929             | 19686           | 32711          | 6.87              | 0.0E+00                          | BF306808.1            | EST_HUMAN  | 601888023F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE-4123948 5'  |
| 6934             | 19689           | 32715          | 2.33              | 0.0E+00                          | U419302.1             | NT   | Human chromosome 16 creatine transporter (SLC6A8) and (CDM) paralogous genes, complete cds   |
| 6972             | 19454           | 32474          | 1.18              | 0.0E+00                          | AL049784.1            | NT   | Novel human gene mapping to chromosome 13  |
| 7008             | 19700           | 32754          | 0.65              | 0.0E+00                          | AB026893.1            | NT   | Homo sapiens mRNA for vascular cadherin-2, complete cds  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe Seq ID No: | Exon Seq ID No: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|--|--------------------|
| 7008             | 19700           | 32755          | 0.65              | 0.0E+00 AB026893.1         | NT                    | Homo sapiens mRNA for vascular adhesion protein 2, complete cds  |                    |
| 7013             | 19705           | 32761          | 1.07              | 0.0E+00 AU137738.1         | EST_HUMAN             | AU137738 PLACE1 Homo sapiens cDNA clone PLACE1007120 5'  |                    |
| 7013             | 19705           | 32762          | 1.07              | 0.0E+00 AU137738.1         | EST_HUMAN             | AU137738 PLACE1 Homo sapiens cDNA clone PLACE1007120 5'  |                    |
| 7018             | 19711           | 32763          | 1.2               | 0.0E+00 AW654806.1         | EST_HUMAN             | EST368978 IMAGE resequences, MAGE_16 Homo sapiens cDNA   |                    |
| 7020             | 19712           | 32769          | 0.9               | 0.0E+00 BE254103.1         | EST_HUMAN             | 601113358F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3354568 5'  |                    |
| 7033             | 19725           | 32781          | 0.98              | 0.0E+00 L01973.1           | NT                    | Human type VI sodium channel alpha polypeptide (SCN4A) gene, exon 14   |                    |
| 7041             | 19732           | 32781          | 0.84              | 0.0E+00 AB007835.1         | NT                    | Homo sapiens mRNA for KIAA0468 protein, partial cds  |                    |
| 7041             | 19732           | 32782          | 0.84              | 0.0E+00 AB007835.1         | NT                    | Homo sapiens mRNA for KIAA0468 protein, partial cds  |                    |
| 7047             | 19738           | 32789          | 2.73              | 0.0E+00 AU133213.1         | EST_HUMAN             | AU133213 NT2RP4 Homo sapiens cDNA clone NT2RP4001566 5'  |                    |
| 7062             | 19753           | 32818          | 0.95              | 0.0E+00 11428081           | NT                    | Homo sapiens membrane protein CH1 (CH1), mRNA  |                    |
| 7084             | 19755           | 32820          | 0.66              | 0.0E+00 AA31225.1          | EST_HUMAN             | EST182818 Jurkat T-cells VI Homo sapiens cDNA 5' end   |                    |
| 7089             | 19760           | 32825          | 2.57              | 0.0E+00 AU149706.1         | EST_HUMAN             | AU149708 Y79AA100/2385 5'  |                    |
| 7070             | 19781           | 32825          | 0.94              | 0.0E+00 4758839            | NT                    | Homo sapiens neitin 1 (NTN1), mRNA   |                    |
| 7078             | 19770           | 32834          | 1.32              | 0.0E+00 BE891286.1         | EST_HUMAN             | 601431879F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3817164 5'  |                    |
| 7079             | 19770           | 32835          | 1.32              | 0.0E+00 BE891286.1         | EST_HUMAN             | 601431879F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3817164 5'  |                    |
| 7100             | 17981           | 30495          | 2.54              | 0.0E+00 AF197286.1         | NT                    | Homo sapiens keratin 12 (KRT12) gene, complete cds   |                    |
| 7100             | 17981           | 30496          | 2.54              | 0.0E+00 AF197286.1         | NT                    | Homo sapiens keratin 12 (KRT12) gene, complete cds   |                    |
| 7122             | 18810           | 32878          | 5.01              | 0.0E+00 11498689           | NT                    | Homo sapiens vitamin D (1,25-dihydroxyvitamin D3) receptor (VDR), mRNA   |                    |
| 7122             | 18810           | 32877          | 5.01              | 0.0E+00 11498689           | NT                    | Homo sapiens vitamin D (1,25-dihydroxyvitamin D3) receptor (VDR), mRNA   |                    |
| 7137             | 18824           | 32891          | 0.55              | 0.0E+00 AF227744.1         | NT                    | Homo sapiens voltage-dependent calcium channel alpha 1G subunit isoform beta (CACNA1G) mRNA, complete cds  |                    |
| 7156             | 18843           | 32911          | 37.67             | 0.0E+00 AI128344.1         | EST_HUMAN             | qcd7a07_x1 Soares_placenta_80weeks_2NbHP809W Homo sapiens cDNA clone IMAGE:1714844 3' similar to SW-ARSD_HUMAN P51668 ARYL-SULFATASE D PRECURSOR; OR :contains element HGR repetitive element; |                    |
| 7156             | 18843           | 32912          | 37.67             | 0.0E+00 AI128344.1         | EST_HUMAN             | qcd7a07_x1 Soares_placenta_80weeks_2NbHP809W Homo sapiens cDNA clone IMAGE:1714844 3' similar to SW-ARSD_HUMAN P51668 ARYL-SULFATASE D PRECURSOR; OR :contains element HGR repetitive element; |                    |
| 7158             | 18846           | 32914          | 0.88              | 0.0E+00 AF227135.1         | NT                    | Homo sapiens candidate taste receptor T2R9 gene, complete cds  |                    |
| 7158             | 18845           | 32915          | 0.68              | 0.0E+00 AF227135.1         | NT                    | Homo sapiens candidate taste receptor T2R9 gene, complete cds  |                    |
| 7161             | 18848           | 32918          | 4.85              | 0.0E+00 11426382           | NT                    | Homo sapiens myosin, heavy polypeptide 8, skeletal muscle, peripheral (MYH8), mRNA   |                    |
| 7161             | 18848           | 32919          | 4.85              | 0.0E+00 11426382           | NT                    | Homo sapiens myosin, heavy polypeptide 8, skeletal muscle, peripheral (MYH8), mRNA   |                    |
| 7163             | 18850           |                | 15.23             | 0.0E+00 BF37375.1          | EST_HUMAN             | 602035089F1 NC1_CGAP_Bm64_Homo sapiens cDNA clone IMAGE:4182839 5'   |                    |
| 7165             | 18852           | 32921          | 2.85              | 0.0E+00 AA128453.1         | EST_HUMAN             | zr609_r1 Stratagene muscle 837209 Homo sapiens cDNA clone IMAGE:562601 5' similar to TR:CE006562 NEBULIN.; G8086562 NEBULIN.;  |                    |

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Table 4  
Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source                                     | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|---|---|
| 7170             | 18858           | 32827          | 0.7               | 0.0E+00                    | AL079497.1            | EST_HUMAN   | DKFZp634B0228_NI_434 (synonym: Iress3) Homo sapiens cDNA clone DKFZp434B0228_6  |
| 7170             | 18858           | 32828          | 0.7               | 0.0E+00                    | AL079497.1            | EST_HUMAN   | DKFZp634B0228_NI_434 (synonym: Iress3) Homo sapiens cDNA clone DKFZp434B0228_5  |
| 7208             | 18893           | 32869          | 1.09              | 0.0E+00                    | BE285498.1            | EST_HUMAN   | 601174578F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:35229794_5   |
| 7210             | 18895           | 32870          | 1                 | 0.0E+00                    | 11427865 NT           | Homo sapiens hypothetical protein FL_B20281, mRNA           |   |
| 7213             | 18898           |                | 1.42              | 0.0E+00                    | AU118867.1            | EST_HUMAN   | AU118867 HEMBA1 Homo sapiens cDNA clone HEMBA1003959_5  |
| 7214             | 18899           | 32873          | 1.89              | 0.0E+00                    | AF005213.1            | NT  | Homo sapiens ankyrin 1 (ANK1) mRNA, complete cds  |
| 7214             | 18899           | 32874          | 1.89              | 0.0E+00                    | AF005213.1            | NT  | Homo sapiens ankyrin 1 (ANK1) mRNA, complete cds  |
| 7226             | 18911           | 32884          | 0.87              | 0.0E+00                    | AF246505.1            | NT  | Homo sapiens adican mRNA, complete cds  |
| 7232             | 18917           | 32889          | 8.04              | 0.0E+00                    | X70172.1              | NT  | H. sapiens DNA for ZNCBP2 pseudogene, exon 4  |
| 7234             | 18919           | 32891          | 8.51              | 0.0E+00                    | U45448.1              | NT  | Human P2X1 receptor mRNA, complete cds  |
| 7234             | 18919           | 32892          | 8.51              | 0.0E+00                    | U45448.1              | NT  | Human P2X1 receptor mRNA, complete cds  |
| 7247             | 18932           | 32907          | 0.88              | 0.0E+00                    | AW956503.1            | EST_HUMAN   | EST368573 MAGE sequences, MAGD Homo sapiens cDNA EST60108.X1 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE:32223167'3' similar to gb:NM64911_ma1 IG HEAVY CHAIN PRECURSOR V-II REGION (HUMAN); |
| 7249             | 18934           | 33009          | 0.58              | 0.0E+00                    | BE672445.1            | EST_HUMAN   |   |
| 7250             | 18935           | 33010          | 2.52              | 0.0E+00                    | AW950516.1            | EST_HUMAN   | EST362586 MAGE sequences, MAGA Homo sapiens cDNA AF001543 Human cDNA (Chandrasekharappa,S.C.) Homo sapiens cDNA clone kappa_200   |
| 7273             | 18957           | 33033          | 0.57              | 0.0E+00                    | AF001543.1            | EST_HUMAN   | AF001543 Human cDNA (Chandrasekharappa,S.C.) Homo sapiens cDNA clone kappa_200  |
| 7273             | 18957           | 33034          | 0.57              | 0.0E+00                    | AF001543.1            | EST_HUMAN   | AF001543 Human cDNA (Chandrasekharappa,S.C.) Homo sapiens cDNA clone kappa_200  |
| 7273             | 18957           | 33035          | 0.57              | 0.0E+00                    | AF001543.1            | EST_HUMAN   | AF001543 Human cDNA (Chandrasekharappa,S.C.) Homo sapiens cDNA clone kappa_200  |
| 7292             | 18975           |                | 0.58              | 0.0E+00                    | M60354.1              | NT  | Human BTF3 protein homologue gene, complete cds   |
| 7293             | 18978           | 33053          | 0.98              | 0.0E+00                    | BE408203.1            | EST_HUMAN   | 6011302678F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3687434_5'  |
| 7305             | 18988           | 33064          | 0.6               | 0.0E+00                    | AW402542.1            | EST_HUMAN   | U1-HF-BK0-ses-g-07-0-U1r1 NIH_MGC_36 Homo sapiens cDNA clone IMAGE:3054824_5'   |
| 7322             | 20005           |                | 1.43              | 0.0E+00                    | R87430.1              | EST_HUMAN   | ym88h10.r1 Scores adult brain N2b4HB55Y Homo sapiens cDNA clone IMAGE:166051_5'   |
| 7323             | 20008           | 33083          | 1.88              | 0.0E+00                    | AW238328.1            | EST_HUMAN   | xb38e05.y1 NCI_CGAP_Lu61 Homo sapiens cDNA clone IMAGE:2578840_5' similar to TR-QR8050 Q08050 HNF3/FH TRANSCRIPTION FACTOR GENESIS :  |
| 7342             | 20023           |                | 1.31              | 0.0E+00                    | AU117553.1            | EST_HUMAN   | AU117553 HEMBA1 Homo sapiens cDNA clone HEMBA1001881_5'   |
| 7344             | 20025           | 33101          | 3.67              | 0.0E+00                    | 11427735 NT           | Homo sapiens glutagon-like peptide 2 receptor (GLP2R), mRNA |   |
| 7358             | 20048           | 33125          | 0.58              | 0.0E+00                    | BF229235.1            | EST_HUMAN   | MRO-AN10083-270900-004-007 AN0083 Homo sapiens cDNA clone kappa_200   |
| 7372             | 20052           | 33133          | 0.67              | 0.0E+00                    | L32832.1              | NT  | Homo sapiens zinc finger homeodomain protein (ATBF1-A) mRNA, complete cds   |
| 7397             | 20075           | 33154          | 1.18              | 0.0E+00                    | BF306868.1            | EST_HUMAN   | 6011889822F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:4123948_5'  |
| 7397             | 20075           | 33155          | 1.18              | 0.0E+00                    | BF306868.1            | EST_HUMAN   | 6011889822F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:4123948_5'  |
| 7406             | 20083           | 33168          | 0.92              | 0.0E+00                    | AU118707.1            | EST_HUMAN   | AU118707 HEMBA1 Homo sapiens cDNA clone HEMBA1004314_5'   |
| 7460             | 20133           | 33223          | 4.16              | 0.0E+00                    | A1732561.1            | EST_HUMAN   | cn17d05.x1 Normal Human Trabecular Bone Cells Homo sapiens cDNA clone IMAGE:417d05 random   |

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**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe Seq ID No. | Exon Seq ID No. | ORF Seq ID No: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|--|
| 7460             | 20133           | 33224          | 4.16              | 0.0E+00                              | AI752581.1            | EST_HUMAN               | cm17d05.x1 Normal Human Tracheolar Bone Cells Homo sapiens cDNA clone NHTBC_cm17d05 random   |
| 7535             | 20205           | 33301          | 1                 | 1.83                                 | 0.0E+00               | AF084205.1              | Homo sapiens dynein 1 (DCTN1) gene, alternatively spliced products, exons 7 through 32 and complete cds  |
| 7535             | 20205           | 33302          | 1.83              | 0.0E+00                              | AF084205.1            | NT                      | Homo sapiens dynein 1 (DCTN1) gene, alternatively spliced products, exons 7 through 32 and complete cds  |
| 7543             | 20213           | 33313          | 1.14              | 0.0E+00                              | U74315.1              | EST_HUMAN               | HSU74315 Human chromosome 14 Homo sapiens cDNA clone 1-4   |
| 7557             | 20227           | 33330          | 1.1               | 0.0E+00                              | 11417342              | NT                      | Homo sapiens sera domain, seven thrombospondin repeats (type 1 and type 1-like), transmembrane domain (TM) and short cytoplasmic domain (semaphorin) 5A (SEMA5A), mRNA |
| 7570             | 20239           | 33343          | 2.28              | 0.0E+00                              | AW672785.1            | EST_HUMAN               | b011e08.v1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2823108 5' similar to SW:P101_PIG 002898  |
| 7570             | 20239           | 33344          | 2.28              | 0.0E+00                              | AW672785.1            | EST_HUMAN               | PHOSPHATIDYLINOSITOL 3-KINASE REGULATORY SUBUNIT :   |
| 7598             | 20264           | 33360          | 1.97              | 0.0E+00                              | AI825504.1            | EST_HUMAN               | b011e08.v1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2823108 5' similar to SW:P101_PIG 002898  |
| 7598             | 20264           | 33361          | 1.97              | 0.0E+00                              | AI825504.1            | EST_HUMAN               | wb17g05.x1 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE:2305978 3' similar to TR:075363 OT7363   |
| 7594             | 20262           | 33370          | 1.51              | 0.0E+00                              | 6912735               | NT                      | wb17g05.x1 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE:2305978 3'   |
| 7599             | 20265           | 33373          | 1.09              | 0.0E+00                              | N76128.1              | EST_HUMAN               | z886e05.s1 Scores_fetal_lung_NIH-19W Homo sapiens cDNA clone IMAGE:288458 3'   |
| 7604             | 20270           | 33377          | 5.87              | 0.0E+00                              | BF217905.1            | EST_HUMAN               | 601885465F-1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE:4103728 5'   |
| 7613             | 20279           | 33387          | 5.41              | 0.0E+00                              | AU128622              | NT2RP_Human             | AU128622 NT2RP_Human Homo sapiens cDNA clone NT2RP2005813 5'   |
| 7653             | 25117           | 33406          | 0.97              | 0.0E+00                              | AW0689274.1           | EST_HUMAN               | cr42e08.v1 Jia bone marrow stroma Homo sapiens cDNA clone HBMSC_cr42e08 3'   |
| 7653             | 25117           | 33407          | 0.97              | 0.0E+00                              | AW0689274.1           | EST_HUMAN               | cr42e08.v1 Jia bone marrow stroma Homo sapiens cDNA clone HBMSC_cr42e08 3'   |
| 7636             | 20301           | 33409          | 6.26              | 0.0E+00                              | 4501848               | NT                      | Homo sapiens ATP-binding cassette, sub-family A (ABC1), member 3 (ABC43), mRNA   |
| 7643             | 20308           | 33416          | 1.13              | 0.0E+00                              | AV758467.1            | EST_HUMAN               | AV758467 BM Homo sapiens cDNA clone BMFBGG05 5'  |
| 7645             | 20309           | 33417          | 6.31              | 0.0E+00                              | BE738870.1            | EST_HUMAN               | 6015831168F-1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:3947385 5'   |
| 7645             | 20309           | 33418          | 6.31              | 0.0E+00                              | BE738870.1            | EST_HUMAN               | 6015831168F-1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:3947385 5'   |
| 7646             | 20310           | 33419          | 1.18              | 0.0E+00                              | 6912461               | NT                      | Homo sapiens atrophin-1 interacting protein 1; atrofin receptor interacting protein 1 (KIAA0705), mRNA   |
| 7648             | 20310           | 33420          | 1.18              | 0.0E+00                              | 6912461               | NT                      | Homo sapiens atrophin-1 interacting protein 1; atrofin receptor interacting protein 1 (KIAA0705), mRNA   |
| 7647             | 20311           | 33421          | 0.71              | 0.0E+00                              | AU120424.1            | EST_HUMAN               | AU120424 HEMBB1_Homo sapiens cDNA clone HEMBB1000855 5'  |
| 7647             | 20311           | 33422          | 0.71              | 0.0E+00                              | AU120424.1            | EST_HUMAN               | AU120424 HEMBB1_Homo sapiens cDNA clone HEMBB1000855 5'  |
| 7680             | 20344           | 33456          | 1.81              | 0.0E+00                              | BE787810.1            | EST_HUMAN               | 601481773F-1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3984259 5'   |

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Table 4

Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|-------------------------|---|
| 7880             | 20344           | 33457          |                   | 1.81                       | BE787610.1            | EST_HUMAN               | 60148173F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3884268 5'                              |
| 7720             | 20384           | 33498          |                   | 0.83                       | W52673.1              | EST_HUMAN               | 2520F10.r1 Pancreatic Islet Homo sapiens cDNA clone IMAGE:338443 5'                         |
| 7734             | 20388           | 33513          |                   | 0.56                       | AW402382.1            | EST_HUMAN               | UH-F-BK0-aa-b-08-0-LJL1 NIH_MGC_38 Homo sapiens cDNA clone IMAGE:3053915 5'                 |
| 7735             | 20400           | 33516          |                   | 0.78                       | 0.0E+00 AA786892.1    | EST_HUMAN               | nr 3e08_s1 NCI CGAP_GCB1 Homo sapiens cDNA clone IMAGE:1287638 3' similar to gtxU016228     |
| 7735             | 20400           | 33518          |                   | 0.78                       | 0.0E+00 AA786892.1    | EST_HUMAN               | MICROTUBULE-ASSOCIATED PROTEIN 2 (HUMAN);   |
| 7752             | 20448           | 33572          |                   | 0.64                       | 0.0E+00 AU133187.1    | EST_HUMAN               | AU133187 NT2RP4 Homo sapiens cDNA clone NT2RP4001507 5'                                     |
| 7812             | 20507           | 33630          |                   | 0.82                       | 0.0E+00 BE313013.1    | EST_HUMAN               | 601150347F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:35639050 5'                            |
| 7824             | 20519           | 33645          |                   | 1.13                       | 0.0E+00 AA149791.1    | EST_HUMAN               | 2a01c06_r1 Strategene codon (#837204) Homo sapiens cDNA clone IMAGE:568410 5'               |
| 7837             | 20532           | 33659          |                   | 0.84                       | 0.0E+00 BF0286828.1   | EST_HUMAN               | 6011672310F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:39855131 5'                           |
| 7849             | 20544           | 33672          |                   | 0.45                       | 0.0E+00 AA017021.1    | EST_HUMAN               | 2a32h08_r1 Seares retina N2b4HR Homo sapiens cDNA clone IMAGE:360831 5'                     |
| 7863             | 20581           | 33688          |                   | 2.31                       | 0.0E+00 BE736046.1    | EST_HUMAN               | 6013056853F1 NIH_MGC_39 Homo sapiens cDNA clone IMAGE:3689803 5'                            |
| 7881             | 20576           | 33703          |                   | 10.46                      | 0.0E+00 M34872.1      | NT                      | Human amyloid-beta protein (APP) gene, exon 11  |
| 7881             | 20576           | 33704          |                   | 10.46                      | 0.0E+00 M34872.1      | NT                      | Human amyloid-beta protein (APP) gene, exon 11  |
| 7809             | 20604           | 33734          |                   | 0.74                       | 0.0E+00 AW674581.1    | EST_HUMAN               | bb344d02_y1 NIH_MGC_10 Homo sapiens cDNA clone IMAGE:2886123 5' similar to TR:064652 084682 |
| 7809             | 20604           | 33735          |                   | 0.74                       | 0.0E+00 AW674581.1    | EST_HUMAN               | F17K2.26 PROTEIN.;  |
| 7916             | 20811           | 33741          |                   | 3.91                       | 0.0E+00 AA397551.1    | EST_HUMAN               | G380482 POL-REVERSE TRANSCRIPTASE HOMOLOG (RETROVIRAL ELEMENT);                             |
| 7818             | 20813           | 33742          |                   | 1.41                       | 0.0E+00 AW38731.1     | EST_HUMAN               | MRI-ST0031-061008-003-411 S1031 Homo sapiens cDNA   |
| 7821             | 20816           |                |                   | 0.73                       | 0.0E+00 AB020691.1    | NT                      | Homo sapiens mRNA for KIAA0884 protein, partial cds   |
| 7822             | 20817           | 33744          |                   | 7.02                       | 0.0E+00 ALH42402.1    | EST_HUMAN               | ALJ42402 Y78A1 Homo sapiens cDNA clone Y78A1A10002777 5'                                    |
| 7828             | 20821           | 33748          |                   | 1.83                       | 0.0E+00 BE388421.1    | EST_HUMAN               | 601285550F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3607237 5'                             |
| 7828             | 20821           | 33749          |                   | 1.83                       | 0.0E+00 BE388421.1    | EST_HUMAN               | 601285550F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3607237 5'                             |
| 7842             | 20827           | 33784          |                   | 1.00                       | 0.0E+00 W95278.1      | EST_HUMAN               | 2a05d01_r1 Seares_fetal_heart_NbIIIH19W Homo sapiens cDNA clone IMAGE:358081 5'             |
| 7842             | 20827           | 33785          |                   | 1.00                       | 0.0E+00 W95278.1      | EST_HUMAN               | 2a05d01_r1 Seares_fetal_heart_NbIIIH19W Homo sapiens cDNA clone IMAGE:358081 5'             |
| 7844             | 20839           |                |                   | 8.89                       | 0.0E+00 BF973098.1    | EST_HUMAN               | 6021630048F1 NIH_MGC_81 Homo sapiens cDNA clone IMAGE:4294128 5'                            |
| 7848             | 20843           |                |                   | 0.67                       | 0.0E+00 AU134114.1    | EST_HUMAN               | AU134114 OVARC1 Homo sapiens cDNA clone OVARC1001298 5'                                     |
| 7862             | 20857           | 33782          |                   | 0.96                       | 0.0E+00 BF25534.1     | EST_HUMAN               | 602068632F1 NCI CGAP_Bm64 Homo sapiens cDNA clone IMAGE:4212727 5'                          |
| 7862             | 20857           | 33783          |                   | 0.96                       | 0.0E+00 BF25534.1     | EST_HUMAN               | 602068632F1 NCI CGAP_Bm64 Homo sapiens cDNA clone IMAGE:4212727 5'                          |
| 7862             | 20887           | 33813          |                   | 1.59                       | 0.0E+00 AL120124.1    | EST_HUMAN               | DKFZp761P092_r1 761 (synonym: hamy2) Homo sapiens cDNA clone DKFZp761P092 5'                |
| 7862             | 20887           | 33814          |                   | 1.59                       | 0.0E+00 AL120124.1    | EST_HUMAN               | DKFZp761P092_r1 761 (synonym: hamy2) Homo sapiens cDNA clone DKFZp761P092 5'                |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe Seq ID No: | Exon seq ID No: | ORF seq ID No: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source                              | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--|
| 8035             | 20730           |                |                   | 1.32                                 | 0.0E+00 BE877893.1    | EST_HUMAN  | 601485224F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3887773 5'  |
| 8057             | 20751           | 33882          |                   | 2.48                                 | 0.0E+00 AW500549.1    | EST_HUMAN  | UHF-BN0-dk4-01-0-U1.1 NIH_MGC_50 Homo sapiens cDNA clone IMAGE:3077498 5'  |
| 8065             | 20759           | 33888          |                   | 16.05                                | 0.0E+00 AW157233.1    | EST_HUMAN  | 601539b08.1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:2783799 3' similar to TR:060463_O60463 TYPE-2 PHOSPHATIDIC ACID PHOSPHOHYDROASE [1]; |
| 8082             | 20778           | 33906          |                   | 0.68                                 | 0.0E+00 AW072365.1    | EST_HUMAN  | 60107d12.1 Scareas_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:12567639 3' similar to contains element OFR repetitive element;                              |
| 8088             | 20783           | 33924          |                   | 1.09                                 | 0.0E+00 11421722 NT   | Homo sapiens centrosomal protein 2 (CEP2), mRNA      |  |
| 8102             | 20798           | 33927          |                   | 1.07                                 | 0.0E+00 W01618.1      | EST_HUMAN  | 601626d05.11 Scareas_fetal liver spleen 1NFLS Homo sapiens cDNA clone IMAGE:284633 5'  |
| 8104             | 20798           | 33929          |                   | 1.22                                 | 0.0E+00 BE745897.1    | EST_HUMAN  | 601578186F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:39268888 5'  |
| 8104             | 20798           | 33930          |                   | 1.22                                 | 0.0E+00 BE745897.1    | EST_HUMAN  | 601578186F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:39268888 5'  |
| 8115             | 20809           | 33943          |                   | 1.46                                 | 0.0E+00 AJ271735.1    | NT   | Homo sapiens Xq pseudautosomal region, segment 1/2   |
| 8154             | 20848           | 33980          |                   | 0.95                                 | 0.0E+00 A1367350.1    | EST_HUMAN  | 60105c12.1X1 NCL_CGAP_J12 Homo sapiens cDNA clone IMAGE:1989334 3' similar to TR:Q14673 Q14673   |
| 8165             | 20859           | 33991          |                   | 2.63                                 | 0.0E+00 BE674157.1    | EST_HUMAN  | KIAA0164 PROTEIN ;   |
| 8167             | 20861           | 33993          |                   | 1.19                                 | 0.0E+00 A1885671.1    | EST_HUMAN  | 7d78a04.1X1 NCL_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:32788822 3' similar to TR:085783 Q85783  |
| 8180             | 20874           | 34009          |                   | 1.07                                 | 0.0E+00 BE563650.1    | EST_HUMAN  | 601680b10.1X1 NCL_CGAP_Bm25 Homo sapiens cDNA clone IMAGE:2428275 3' similar to STAUFEN PROTEIN ;  |
| 8180             | 20874           | 34010          |                   | 1.07                                 | 0.0E+00 BE563650.1    | EST_HUMAN  | 601334780F1 NIH_MGC_38 Homo sapiens cDNA clone IMAGE:38888655 5'   |
| 8189             | 20883           | 34020          |                   | 1.63                                 | 0.0E+00 11427235 NT   | Homo sapiens Chediak-Higashi syndrome 1 (CHS1), mRNA |  |
| 8189             | 20883           | 34021          |                   | 1.63                                 | 0.0E+00 11427235 NT   | Homo sapiens Chediak-Higashi syndrome 1 (CHS1), mRNA |  |
| 8191             | 20885           | 34023          |                   | 3.2                                  | 0.0E+00 AA403182.1    | EST_HUMAN  | 2d68f02.1 Scareas_fetal fetus Nb2Hf8_9w Homo sapiens cDNA clone IMAGE:758819 5' similar to   |
| 8191             | 20885           | 34024          |                   | 3.2                                  | 0.0E+00 AA403182.1    | EST_HUMAN  | 2d68f02.1 Scareas_fetal fetus Nb2Hf8_9w Homo sapiens cDNA clone IMAGE:758819 5' similar to   |
| 8231             | 20925           |                |                   | 4.63                                 | 0.0E+00 AA398611.1    | EST_HUMAN  | 273608.51 Scareas_bsfbs_NHT Homo sapiens cDNA clone IMAGE:727858 3' similar to gb:S85655   |
| 8240             | 20934           | 34071          |                   | 0.56                                 | 0.0E+00 BE837583.1    | EST_HUMAN  | PROHIBITIN (HUMAN); RC2-FN0394-120600-013-h07 FN0094 Homo sapiens cDNA   |
| 8241             | 20935           | 34072          |                   | 1.17                                 | 0.0E+00 AW384874.1    | EST_HUMAN  | QV3-DT0045-221299-048-c07 DT0045 Homo sapiens cDNA   |
| 8241             | 20935           | 34073          |                   | 1.17                                 | 0.0E+00 AW384874.1    | EST_HUMAN  | QV3-DT0045-221299-048-c07 DT0045 Homo sapiens cDNA   |
| 8260             | 20944           | 34082          |                   | 1.88                                 | 0.0E+00 BE612586.1    | EST_HUMAN  | 60145242F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3956179 5'   |
| 8260             | 20944           | 34083          |                   | 1.88                                 | 0.0E+00 BE612586.1    | EST_HUMAN  | 60145242F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3956179 5'   |
| 8275             | 20969           | 34110          |                   | 1.52                                 | 0.0E+00 AL163209.2    | NT   | Homo sapiens chromosome 21 segment HS21C009  |
| 8275             | 20969           | 34111          |                   | 1.52                                 | 0.0E+00 AL163209.2    | NT   | Homo sapiens chromosome 21 segment HS21C009  |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST:E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|---|---|
| 8288             | 20980           | 34120          | 1.3               | 0.0E+00                              | AI894477.1            | EST_HUMAN   | wm33er11.X1 NCI_CGAP_U4 Homo sapiens cDNA clone IMAGE:2437724 3' similar to TR:075457 075457 CYTOSOLIC PHOSPHOLIPASE A2 GAMMA;  |
| 8293             | 20987           | 34126          | 1.27              | 0.0E+00                              | AA502294.1            | EST_HUMAN   | G1138434 KIAA0187 PROTEIN;  |
| 8298             | 20982           |                | 0.59              | 0.0E+00                              | 14146780 NT           | Hom sapiens procalcitonin beta 3 (PCDH1B3), mRNA  |   |
| 8305             | 20989           | 34137          | 1.02              | 0.0E+00                              | AI580780.1            | EST_HUMAN   | hsa04f11.X1 Soares_pregnant_uterus_NIH3T3 Homo sapiens cDNA clone IMAGE:2043117 3'  |
| 8308             | 21002           |                | 1.84              | 0.0E+00                              | BE390797.1            | EST_HUMAN   | 60142123EF1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3916569 5'   |
| 8334             | 21027           | 34163          | 0.72              | 0.0E+00                              | AW245785.1            | EST_HUMAN   | 2822701.5prime NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2822701 5'   |
| 8334             | 21027           | 34164          | 0.72              | 0.0E+00                              | AW245785.1            | EST_HUMAN   | 2822701.5prime NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2822701 5'   |
| 8335             | 21028           | 34165          | 2.24              | 0.0E+00                              | 47598895 NT           | Hom sapiens mitogen-activated protein kinase kinase kinase 13 (MAP3K13), mRNA                                       |   |
| 8335             | 21028           | 34166          | 2.24              | 0.0E+00                              | 47598895 NT           | Hom sapiens mitogen-activated protein kinase kinase kinase 13 (MAP3K13), mRNA                                       |   |
| 8339             | 21032           | 34169          | 0.59              | 0.0E+00                              | U88084.1              | NT  | Human zinc finger protein (ZNF166), gene, exons 2 and 3   |
| 8339             | 21032           | 34170          | 0.59              | 0.0E+00                              | U88084.1              | NT  | Human zinc finger protein (ZNF166), gene, exons 2 and 3   |
| 8404             | 21097           | 34233          | 0.86              | 0.0E+00                              | AJ251780.1            | NT  | Hom sapiens NE3P5E; GNAS1 antisense (partial) and X_alpha1s (partial) genes   |
| 8409             | 21102           | 34239          | 2.83              | 0.0E+00                              | CB8922.1              | NT  | H. sapiens mRNA for gamma-glutamyltransferase   |
| 8409             | 21102           | 34240          | 2.83              | 0.0E+00                              | CB8922.1              | NT  | H. sapiens mRNA for gamma-glutamyltransferase   |
| 8409             | 21102           | 34241          | 2.83              | 0.0E+00                              | CB8922.1              | NT  | H. sapiens mRNA for gamma-glutamyltransferase   |
| 8424             | 21117           | 34255          | 0.88              | 0.0E+00                              | U82878.1              | NT  | Human immunoglobulin-like transcript-3 mRNA, complete cds   |
| 8465             | 21157           | 34300          | 0.88              | 0.0E+00                              | AF022655.1            | NT  | Hom sapiens cap250 centrosome associated protein mRNA, complete cds   |
| 8465             | 21157           | 34301          | 0.88              | 0.0E+00                              | AF022655.1            | NT  | Hom sapiens cap250 centrosome associated protein mRNA, complete cds   |
| 8468             | 21160           | 34303          | 2.39              | 0.0E+00                              | AU131671.1            | EST_HUMAN   | AU131671.NT28EF3 Homo sapiens cDNA clone NT28EF3003016 5'   |
| 8483             | 21175           | 34320          | 0.85              | 0.0E+00                              | 11428572 NT           | Hom sapiens Immunoglobulin superfamily, member 2 (ICSP2), mRNA  |   |
| 8487             | 21179           |                | 1.92              | 0.0E+00                              | AW513613.1            | EST_HUMAN   | x04601.X1 NCI_CGAP_U4 Homo sapiens cDNA clone IMAGE:270707032 3' similar to gb:NM14123_cds4 RETROVIRUS-RELATED POLYPROTEIN (HUMAN); HUMD84028 Clontech human fetal brain polyA+ mRNA (#8535) Homo sapiens cDNA clone GEN-084C02 |
| 8489             | 21181           | 34323          | 14.55             | 0.0E+00                              | D52650.1              | EST_HUMAN   | 5'  |
| 8520             | 21212           | 34358          | 4.04              | 0.0E+00                              | BE378495.1            | EST_HUMAN   | 601236488F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3608709 5'   |
| 8526             | 21218           | 34360          | 2.58              | 0.0E+00                              | AA410545.1            | EST_HUMAN   | Z32604.1 Soares_early tumor NbHOT Homo sapiens cDNA clone IMAGE:724062 5'   |
| 8528             | 21220           |                | 2.91              | 0.0E+00                              | BFG313946.1           | EST_HUMAN   | 601800571F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:4128744 5'   |
| 8535             | 21227           | 34369          | 0.52              | 0.0E+00                              | 11424387 NT           | Hom sapiens leukocyte immunoglobulin-like receptor, subfamily B (With TM and ITIM domains), member 3 (LILRB3), mRNA |   |
| 8540             | 21232           | 34374          | 1.46              | 0.0E+00                              | AW139673.1            | EST_HUMAN   | U+H-B1-adv-e12-0-U..1 NCI_CGAP_Sub3 Homo sapiens cDNA clone IMAGE:2717687 3'  |
| 8540             | 21232           | 34375          | 1.49              | 0.0E+00                              | AW139673.1            | EST_HUMAN   | U+H-B1-adv-e12-0-U..1 NCI_CGAP_Sub3 Homo sapiens cDNA clone IMAGE:2717687 3'  |

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Table 4

Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No.                              | Top Hit Database Source   | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------------|--|---|---|
| 8545 21237       |                 |                | 0.49              | 0.0E+00                          | AI640190.1   | EST_HUMAN   | wg30b10_x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:2288578 3' similar to TR-O15044 |
| 8564 21256       | 34393           | 0.76           | 0.0E+00           | BF377897.1                       | EST_HUMAN  | CM1-TN0141-250900-439-b08 TN0141 Homo sapiens cDNA  | O15044 KIAA0335.  |
| 8574 21268       | 34408           | 0.59           | 0.0E+00           | AI163301.2                       | NT   | Homo sapiens chromosome 21 segment HS21C101   |   |
| 8580 21272       | 34410           | 5.89           | 0.0E+00           | BE260272.1                       | EST_HUMAN  | 601150051F1 NIH_MGC_18 Homo sapiens cDNA clone IMAGE:3502836 5'   |   |
| 8585 21277       | 34414           | 2.51           | 0.0E+00           | BF700165.1                       | EST_HUMAN  | 6021278634F1 NIH_MGC_88 Homo sapiens cDNA clone IMAGE:4284542 5'  |   |
| 8585 21277       | 34415           | 2.51           | 0.0E+00           | BF700165.1                       | EST_HUMAN  | 6021278634F1 NIH_MGC_88 Homo sapiens cDNA clone IMAGE:4284542 5'  |   |
| 8586 21277       | 34416           | 2.51           | 0.0E+00           | BF700165.1                       | EST_HUMAN  | 6021278634F1 NIH_MGC_88 Homo sapiens cDNA clone IMAGE:4284542 5'  |   |
| 8600 21282       | 34434           | 0.53           | 0.0E+00           | AI458722.1                       | EST_HUMAN  | 813h11_x1 NCI_CGAP_Lu24 Homo sapiens cDNA clone IMAGE:2150949 3'  |   |
| 8628 21318       | 34460           | 0.88           | 0.0E+00           | AI449770.1                       | EST_HUMAN  | AI449770 Homo sapiens fetal brain (Starmides GS) Homo sapiens cDNA  |   |
| 8631 21323       | 34464           | 7.75           | 0.0E+00           | AA862527.1                       | EST_HUMAN  | or80q12_x1 NCI_CGAP_Lu5 Homo sapiens cDNA clone IMAGE:1602194 3' similar to gb:M36072 60S RIBOSOMAL PROTEIN L7A (HUMAN)           |   |
| 8637 21329       | 34472           | 3.09           | 0.0E+00           | 10947037                         | NT   | Homo sapiens ankyrin 1, erythrocytic (ANK1), transcript variant 1, mRNA   |   |
| 8637 21329       | 34473           | 3.09           | 0.0E+00           | 10947037                         | NT   | Homo sapiens ankyrin 1, erythrocytic (ANK1), transcript variant 1, mRNA   |   |
| 8660 21352       | 34499           | 1.3            | 0.0E+00           | Y11107.3                         | NT   | Homo sapiens ITGB4 gene for integrin beta 4 subunit, exons 3-41   |   |
| 8662 21354       | 34501           | 1.82           | 0.0E+00           | BF278917.1                       | EST_HUMAN  | 601156350F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3139734 5'   |   |
| 8672 21364       | 1.91            | 0.0E+00        | AV718377.1        | EST_HUMAN                        | AV718377 FHTB Homo sapiens cDNA clone FHTBAAF11 5' |   |   |
| 8678 21371       | 34616           | 3.33           | 0.0E+00           | AW357277.1                       | EST_HUMAN  | dw73c07_x1 NCI_CGAP_Pan1 Homo sapiens cDNA clone IMAGE:2833844 3' similar to gb:X535387 INTEGRIN BETA-4 SUBUNIT PRECURSOR (HUMAN) |   |
| 8685 21377       | 34621           | 1.12           | 0.0E+00           | AU124051.1                       | EST_HUMAN  | AU124051 NT2RM2 Homo sapiens cDNA clone NT2RM2001576 5'   |   |
| 8761 21453       | 34601           | 1.05           | 0.0E+00           | AI140704.1                       | EST_HUMAN  | AU140704 PLACE4 Homo sapiens cDNA clone PLACE4000089 5'   |   |
| 8771 21463       | 34610           | 0.86           | 0.0E+00           | AB007823.1                       | NT   | Homo sapiens mRNA for KIAA0454 protein, partial cds   |   |
| 8776 21468       | 34614           | 0.54           | 0.0E+00           | R17132.1                         | EST_HUMAN  | Y058e09_x1 Soares Infant brain 1N1B Homo sapiens cDNA clone IMAGE:31674 5'  |   |
| 8776 21468       | 34615           | 0.54           | 0.0E+00           | R17132.1                         | EST_HUMAN  | Y058e09_x1 Soares Infant brain 1N1B Homo sapiens cDNA clone IMAGE:31674 5'  |   |
| 8780 21472       | 34617           | 4.43           | 0.0E+00           | AW592233.1                       | EST_HUMAN  | hf48e09_x1 Soares NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2835098 3'   |   |
| 8780 21472       | 34618           | 4.43           | 0.0E+00           | AW592233.1                       | EST_HUMAN  | hf48e09_x1 Soares NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2835098 3'   |   |
| 8815 21507       | 34652           | 0.47           | 0.0E+00           | AU128804.1                       | EST_HUMAN  | AU128804 N72RP2 Homo sapiens cDNA clone N72RP2004245 5'   |   |
| 8827 21519       | 34684           | 1.04           | 0.0E+00           | AV714764                         | EST_HUMAN  | AY714764 DCB Homo sapiens cDNA clone DCBAUA08 5'  |   |
| 8843 21535       | 34679           | 2.78           | 0.0E+00           | ALD40428.1                       | EST_HUMAN  | DKFZp434C1814_s1_434 (synonym: hsc3) Homo sapiens cDNA clone DKFZp434C1814 3'   |   |
| 8843 21535       | 34680           | 2.79           | 0.0E+00           | ALD40428.1                       | EST_HUMAN  | DKFZp434C1814_s1_434 (synonym: hsc3) Homo sapiens cDNA clone DKFZp434C1814 3'   |   |
| 8849 21540       | 34686           | 1.17           | 0.0E+00           | AF133801.1                       | NT   | Homo sapiens killer inhibitory receptor 2-2-1 (KIR221) and killer inhibitory receptor 2-2-2 (KIR222) genes, partial cds           |   |
| 8851 21642       | 34689           | 2.03           | 0.0E+00           | AB04045.1                        | NT   | Homo sapiens mRNA for KIAA1512 protein, partial cds   |   |
| 8858 21549       | 34686           | 0.65           | 0.0E+00           | BF075505.1                       | EST_HUMAN  | 602138433F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE:4274708 5'   |   |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|--|
| 8880             | 21551           |                | 0.8               | 0.0E+00                          | BF058289.1            | EST_HUMAN               | 7K28403_x1 NCI_CGAP_Ov18 Homo sapiens cDNA clone IMAGE-3478892 3' similar to TR-O38448 038448 S GAG .;                             |
| 8889             | 21580           | 34720          | 3.97              | 0.0E+00                          | 11422857              | NT                      | Homo sapiens tumor protein p73 (TP73), mRNA  |
| 8898             | 21588           | 34728          | 1.19              | 0.0E+00                          | K01241.1              | NT                      | Human Ig rearranged H-chain epsilon-3 pseudogene, constant region  |
| 8905             | 21596           | 34737          | 4.27              | 0.0E+00                          | AB020630.1            | NT                      | Homo sapiens mRNA for KIAA0823 protein, partial cds  |
| 8905             | 21598           | 34738          | 4.27              | 0.0E+00                          | AB020630.1            | NT                      | Homo sapiens mRNA for KIAA0823 protein, partial cds  |
| 8910             | 21601           | 34744          | 1.78              | 0.0E+00                          | AV68079.1             | EST_HUMAN               | AV68079 GLC Homo sapiens cDNA clone GLC3KG123'   |
| 8916             | 21607           | 34760          | 2.98              | 0.0E+00                          | 7706838               | NT                      | Homo sapiens poly(rst)n-L (PKDL), mRNA   |
| 8921             | 21612           | 34755          | 0.5               | 0.0E+00                          | BE703326.1            | EST_HUMAN               | 601588304F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE-3942553 5'   |
| 8922             | 21613           | 34756          | 0.73              | 0.0E+00                          | AB033077.1            | NT                      | Homo sapiens mRNA for KIAA1251 protein, partial cds  |
| 8922             | 21613           | 34757          | 0.73              | 0.0E+00                          | AB033077.1            | NT                      | Homo sapiens mRNA for KIAA1251 protein, partial cds  |
| 8924             | 21625           |                | 0.91              | 0.0E+00                          | H73937.1              | EST_HUMAN               | y03n08_r1 Soares fetal liver spleen 1NF1S Homo sapiens cDNA clone IMAGE-232767 5'  |
| 8944             | 21635           | 34779          | 4.57              | 0.0E+00                          | BE15402.1             | EST_HUMAN               | 601141119F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE-3140740 5'   |
| 8944             | 21635           | 34780          | 4.57              | 0.0E+00                          | BE15402.1             | EST_HUMAN               | 601141119F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE-3140740 5'   |
| 8954             | 21645           | 34785          | 0.48              | 0.0E+00                          | BE612721.1            | EST_HUMAN               | 601452582F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE-3856100 5'  |
| 8954             | 21645           | 34786          | 0.48              | 0.0E+00                          | BE612721.1            | EST_HUMAN               | 601452582F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE-3856100 5'  |
| 8957             | 21648           |                | 0.45              | 0.0E+00                          | M68986.1              | NT                      | Human polymorphic loci In Xq28   |
| 8959             | 21650           | 34800          | 3.98              | 0.0E+00                          | X14768.1              | NT                      | Human mRNA for GABA-A receptor, alpha 1 subunit  |
| 8960             | 21670           | 34820          | 2.03              | 0.0E+00                          | A106139.1             | EST_HUMAN               | en28e04_x1 Gessler Wilms tumor Homo sapiens cDNA clone IMAGE-1700094 3'  |
| 8985             | 21675           | 34824          | 1.95              | 0.0E+00                          | A1954607.1            | EST_HUMAN               | wc34812_x1 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE-2473150 3' similar to SW:MGCB3_HUMAN O15480 MELANOMA-ASSOCIATED ANTIGEN B3 : |
| 8989             | 21679           | 34828          | 4.65              | 0.0E+00                          | 92568595              | NT                      | Homo sapiens protocadherin alpha 8 (PCDHHA8), mRNA   |
| 9000             | 21680           | 34840          | 1.42              | 0.0E+00                          | AW958311.1            | EST_HUMAN               | EST370381 MAGE sequences, MAGE Homo sapiens cDNA   |
| 9011             | 21701           | 34851          | 2.49              | 0.0E+00                          | 9835487               | NT                      | Human endogenous retrovirus, complete genome   |
| 9026             | 21716           | 34869          | 1.53              | 0.0E+00                          | AU126862.1            | EST_HUMAN               | AU126862 Y78AA1 Homo sapiens cDNA clone Y78AA1000878 5'  |
| 9042             | 21732           | 34887          | 1.73              | 0.0E+00                          | 11436895              | NT                      | Homo sapiens MAP-kinase activating death domain (MADD), mRNA   |
| 9043             | 21733           |                | 1.18              | 0.0E+00                          | BE410768.1            | EST_HUMAN               | 601301676F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE-3838163 5'  |
| 9058             | 21745           | 34904          | 1.83              | 0.0E+00                          | BF002024.1            | EST_HUMAN               | 7697h12_x1 NCI_CGAP_Conf6 Homo sapiens cDNA clone IMAGE-3314471 3' similar to TR-QBUHf2 Q8UH62 HYPOTHETICAL_42_5 KD PROTEIN ;      |
| 9070             | 21759           | 34920          | 1.1               | 0.0E+00                          | AB011150.1            | NT                      | Homo sapiens mRNA for KIAA0578 protein, partial cds  |
| 9071             | 21760           | 34921          | 7.72              | 0.0E+00                          | BE794823.1            | EST_HUMAN               | 601589284F1 NIH_MGC_7 Homo sapiens cDNA IMAGE-3943463 5'   |
| 9075             | 21784           | 34926          | 0.89              | 0.0E+00                          | BE810282.1            | EST_HUMAN               | RC3-PT0151-280600-01-05 P10151 Homo sapiens cDNA   |
| 9075             | 21784           | 34927          | 0.90              | 0.0E+00                          | BE810282.1            | EST_HUMAN               | RC3-PT0151-280600-01-05 P10151 Homo sapiens cDNA   |
| 9078             | 21787           | 34930          | 2.93              | 0.0E+00                          | AU1363229.1           | EST_HUMAN               | AU1363229 PLACE1 Homo sapiens cDNA clone PLACE1003304 5'   |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|---|--|
| 9083             | 21772           | 34935          | 1.27              | 0.0E+00 BE883843.1         | EST_HUMAN             | 601510247F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:39119886 5   |  |
| 9083             | 21772           | 34936          | 1.27              | 0.0E+00 BE883843.1         | EST_HUMAN             | 601510247F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:39119886 5   |  |
| 9102             | 21790           | 34953          | 0.62              | 0.0E+00 AB011166.1         | NT                    | Homo sapiens mRNA for KIAA0564 protein, partial cds   |  |
| 9108             | 21794           | 34957          | 1.4               | 0.0E+00 AA344601.1         | EST_HUMAN             | EST50505 Gall bladder 1 Homo sapiens cDNA 6' end  |  |
| 9108             | 21794           | 34958          | 1.4               | 0.0E+00 AA344601.1         | EST_HUMAN             | EST50505 Gall bladder 1 Homo sapiens cDNA 5' end  |  |
| 9184             | 21834           | 34988          | 1.13              | 0.0E+00 AW673469.1         | EST_HUMAN             | EST:060275 NIH_MGC_10 Homo sapiens cDNA clone IMAGE:2800367 5' similar to TR:060275 060275  |  |
| 9184             | 21834           | 34989          | 1.13              | 0.0E+00 AW673469.1         | EST_HUMAN             | KIAA0522 PROTEIN ; b654d08;9 NIH_MGC_10 Homo sapiens cDNA clone IMAGE:2800367 5' similar to TR:060275 060275  |  |
| 9188             | 21867           | 35031          | 1.62              | 0.0E+00 BE207063.1         | EST_HUMAN             | b654d08;9 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2823873 5' similar to gb:135049 Mus musculus b654d08;9 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2823873 5' similar to gb:135049 Mus musculus |  |
| 9188             | 21867           | 35032          | 1.62              | 0.0E+00 BE207063.1         | EST_HUMAN             | b654d08;9 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2823873 5' similar to gb:135049 Mus musculus b654d08;9 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2823873 5' similar to gb:135049 Mus musculus |  |
| 9209             | 22088           | 35260          | 1.61              | 0.0E+00 BF348013.1         | EST_HUMAN             | b654d08;9 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:4158300 5'  |  |
| 9244             | 21923           | 35063          | 2.77              | 0.0E+00 BE712515.1         | EST_HUMAN             | b654d08;9 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:4158300 5'  |  |
| 9277             | 22031           | 35201          | 0.88              | 0.0E+00 BF034377.1         | EST_HUMAN             | b654d08;9 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3858035 5'   |  |
| 9277             | 22031           | 35202          | 0.88              | 0.0E+00 BF034377.1         | EST_HUMAN             | b654d08;9 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3858035 5'   |  |
| 9283             | 22037           | 35208          | 0.5               | 0.0E+00 AI806351.1         | EST_HUMAN             | RC-BT108-040389-032 BT108 Homo sapiens cDNA   |  |
| 9286             | 22040           | 35211          | 0.81              | 0.0E+00                    |                       | Homo sapiens leukocyte immunoglobulin-like receptor, subfamily B (with TM and ITIM domains), member 5 (LILRB5), mRNA  |  |
| 9286             | 22040           | 35212          | 0.81              | 0.0E+00                    |                       | 5803069 NT  | Homo sapiens leukocyte immunoglobulin-like receptor, subfamily B (with TM and ITIM domains), member 5 (LILRB5), mRNA |
| 9298             | 21983           | 35137          | 1.5               | 0.0E+00 AL042278.1         | EST_HUMAN             | DKFZp434J0120 _f8_SW_OT_PA_P_S1 Homo sapiens cDNA clone IMAGE:1661249 3' similar to omega0101_x1  |  |
| 9331             | 21998           | 35171          | 1.28              | 0.0E+00 AI088043.1         | EST_HUMAN             | TR:Q14677 Q14677 KIAA0171 PROTEIN ;   |  |
| 9338             | 20409           | 33524          | 0.72              | 0.0E+00 BF309862.1         | EST_HUMAN             | 601892245F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:4138086 5'   |  |
| 9340             | 20411           | 33527          | 2.51              | 0.0E+00                    |                       | Homo sapiens hypothetical C2H2 zinc finger protein FLJ22504 (FLJ22504), mRNA  |  |
| 9340             | 20411           | 33528          | 2.51              | 0.0E+00                    |                       | Homo sapiens hypothetical C2H2 zinc finger protein FLJ22504 (FLJ22504), mRNA  |  |
| 9342             | 20413           | 33531          | 9.88              | 0.0E+00 AI280809.1         | EST_HUMAN             | pm06a08;1 NCI_OGAP_Lu5 Homo sapiens cDNA clone IMAGE:1881288 3' similar to SW:RL2B_HUMAN  |  |
| 9342             | 20413           | 33532          | 9.88              | 0.0E+00 AI280809.1         | EST_HUMAN             | P28318 808 RIBOSOMAL PROTEIN L23A. ; pm06a08;1 NCI_OGAP_Lu5 Homo sapiens cDNA clone IMAGE:1881288 3' similar to SW:RL2B_HUMAN   |  |
| 9343             | 20414           | 33533          | 1.89              | 0.0E+00 AW953836.1         | EST_HUMAN             | P28318 808 RIBOSOMAL PROTEIN L23A. ;  |  |
| 9370             | 21945           | 35117          | 3.07              | 0.0E+00 AF153468.1         | NT                    | ES1368028 MAGE gene sequences, MAGC Homo sapiens cDNA   |  |

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**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No.   | Top Hit Database Source   | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|----------------------------|---|---|--------------------|
| 8373             | 21848           | 35121          | 0.86              | 0.0E+00 BE885128.1         | EST_HUMAN   | 601570882F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:3912165 5'                                       |                    |
| 8373             | 21848           | 35122          | 0.86              | 0.0E+00 BE885128.1         | EST_HUMAN   | 601510882F1 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:3912165 5'                                       |                    |
| 8382             | 22044           |                | 7.32              | 0.0E+00 BE255828.1         | EST_HUMAN   | 601109942F1 NIH_MGC_18 Homo sapiens cDNA clone IMAGE:3350722 5'                                       |                    |
| 8385             | 22047           | 35219          | 1.09              | 0.0E+00 BE781382.1         | EST_HUMAN   | 601468828F1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE:3870007 5'                                       |                    |
| 8385             | 22047           | 35220          | 1.09              | 0.0E+00 BE781382.1         | EST_HUMAN   | 601468828F1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE:3870007 5' similar to gbM36072                   |                    |
| 8387             | 22049           | 35221          | 12.62             | 0.0E+00 AW168778.1         | EST_HUMAN   | 6018604.y1 Schneider fetal brain 00004 Homo sapiens cDNA clone IMAGE:3160477 5'                       |                    |
| 9049             | 22071           | 35243          | 2.98              | 0.0E+00 BE263191.1         | EST_HUMAN   | 601145054F2 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:3160477 5'                                       |                    |
| 9427             | 22105           | 35278          | 4.29              | 0.0E+00 C08158.1           | EST_HUMAN   | C08158 Human pancreas islet Homo sapiens cDNA clone hbc5605   |                    |
| 9427             | 22105           | 35279          | 4.29              | 0.0E+00 C08158.1           | EST_HUMAN   | C08158 Human pancreas islet Homo sapiens cDNA clone hbc5605   |                    |
| 9429             | 22107           | 35282          | 2.68              | 0.0E+00 BE746215.1         | EST_HUMAN   | 601578683F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:3927548 5'  |                    |
| 9439             | 22117           | 35282          | 2.14              | 0.0E+00 11437282 NT        | Homo sapiens solute carrier family 21 (organic anion transporter), member 9 (SLC21A9), mRNA |   |                    |
| 9439             | 22117           | 35283          | 2.14              | 0.0E+00 11437282 NT        | Homo sapiens solute carrier family 21 (organic anion transporter), member 9 (SLC21A9), mRNA |   |                    |
| 9439             | 22117           | 35284          | 2.14              | 0.0E+00 11437282 NT        | Homo sapiens solute carrier family 21 (organic anion transporter), member 9 (SLC21A9), mRNA |   |                    |
| 9459             | 22009           | 35179          | 1.44              | 0.0E+00 BE900549.1         | EST_HUMAN   | 601673428F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3956238 5'                                       |                    |
| 9475             | 22128           | 35307          | 1.01              | 0.0E+00 AV701829.1         | EST_HUMAN   | AV701828 ADB Homo sapiens cDNA clone ADDBYH01 5'  |                    |
| 9489             | 22142           | 35321          | 2.52              | 0.0E+00 AF019034.1         | NT  | Homo sapiens keratin 2b (KRT2B) gene, complete cds  |                    |
| 9489             | 22142           | 35322          | 2.52              | 0.0E+00 AF019034.1         | NT  | Homo sapiens keratin 2b (KRT2B) gene, complete cds  |                    |
| 9522             | 22176           | 35359          | 0.94              | 0.0E+00 BE082677.1         | EST_HUMAN   | RC2-BT0642-130300-017-901 BT0842 Homo sapiens cDNA  |                    |
| 9541             | 22194           | 35379          | 1.74              | 0.0E+00 AW500283.1         | EST_HUMAN   | UHF-BN0-akg-b-12-0-J1 NIH_MGC_50 Homo sapiens cDNA clone IMAGE:3076893 5'                             |                    |
| 9541             | 22194           | 35380          | 1.74              | 0.0E+00 AW500283.1         | EST_HUMAN   | UHF-BN0-akg-b-12-0-J1 NIH_MGC_50 Homo sapiens cDNA clone IMAGE:3076893 5'                             |                    |
| 9550             | 22203           | 35388          | 1.45              | 0.0E+00 AF028398.1         | NT  | Homo sapiens chromosome 9 duplication of the T cell receptor beta locus and trypsinogen gene families |                    |
| 9550             | 22203           | 35387          | 1.45              | 0.0E+00 AF028308.1         | NT  | Homo sapiens chromosome 9 duplication of the T cell receptor beta locus and trypsinogen gene families |                    |
| 9552             | 22205           | 35388          | 0.69              | 0.0E+00 BE783272.1         | EST_HUMAN   | 601470824F1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE:3874037 5'                                       |                    |
| 9552             | 22205           | 35389          | 0.69              | 0.0E+00 BE783272.1         | EST_HUMAN   | 601470824F1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE:3874037 5'                                       |                    |
| 9561             | 22214           | 35400          | 0.54              | 0.0E+00 W58628.1           | EST_HUMAN   | ZD16s11.1 Scanes_fetal heart_NbH19W Homo sapiens cDNA clone IMAGE:340844 5'                           |                    |
| 9561             | 22214           | 35401          | 0.54              | 0.0E+00 W58628.1           | EST_HUMAN   | ZD16s11.1 Scanes_fetal heart_NbH19W Homo sapiens cDNA clone IMAGE:340844 5'                           |                    |
| 9572             | 22225           | 35410          | 1.83              | 0.0E+00 AB035358.1         | NT  | Homo sapiens mRNA for neuretin-H-alpha protein, complete cds  |                    |
| 9573             | 22229           |                | 0.8               | 0.0E+00 A124780.1          | EST_HUMAN   | am58s11.1 Johnston frontal cortex Homo sapiens cDNA clone IMAGE:1538548 3'                            |                    |
| 9578             | 22231           | 35415          | 3.59              | 0.0E+00 AW500288.1         | EST_HUMAN   | UHF-BN0-akg-o-07-0-J1 NIH_MGC_50 Homo sapiens cDNA clone IMAGE:3077384 5'                             |                    |
| 9624             | 22277           | 35486          | 1.53              | 0.0E+00 AF009668.1         | NT  | Multiple sclerosis associated retrovirus polyprotein (pol) mRNA, partial cds                          |                    |

**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe SEQ ID NO: | Eaton SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor  |
|------------------|------------------|----------------|-------------------|--------------------------------------|-----------------------|-------------------------|---|
| 9652             | 22304            | 35499          | 2.23              | 0.0E+00                              | S78466.1              | NT                      | AlGF=androgen-induced growth factor AlGF [human, placenta, Genomic mRNA, 498 nt, segment 5 of 5]  |
| 9652             | 22304            | 35500          | 2.23              | 0.0E+00                              | S78466.1              | NT                      | AlGF=androgen-induced growth factor AlGF [human, placenta, Genomic mRNA, 498 nt, segment 5 of 5]  |
| 9655             | 22307            | 35505          | 2.98              | 0.0E+00                              | BE56320.1             | EST_HUMAN               | 601334603F1 NIH_MGC_39 Homo sapiens cDNA clone IMAGE:26888880 5'  |
| 9674             | 22326            | 35521          | 1.84              | 0.0E+00                              | AW363135.1            | EST_HUMAN               | CM2-CT0311-301189-043-h11 CT0311 Homo sapiens cDNA  |
| 9692             | 22343            | 35637          | 0.46              | 0.0E+00                              | 11436432              | NT                      | Homo sapiens multineurin (MMRN), mRNA<br>Homo sapiens leukocyte immunoglobulin-like receptor, subfamily B (with TM and ITIM domains), member 3 (LILRB3), mRNA |
| 9693             | 22344            | 35538          | 0.51              | 0.0E+00                              | 11424387              | NT                      | 6626c01_x1 NIH_MGC_5 Homo sapiens cDNA clone IMAGE:2984000 3'   |
| 9702             | 22353            | 35548          | 0.54              | 0.0E+00                              | BE206710.1            | EST_HUMAN               | AU132349 NT2RP3 Homo sapiens cDNA clone NT2RP3004260 5'   |
| 9719             | 22370            | 36568          | 2.57              | 0.0E+00                              | AU13249.1             | EST_HUMAN               | AU132340 NT2RP3 Homo sapiens cDNA clone NT2RP3004260 5'   |
| 9719             | 22370            | 35569          | 2.57              | 0.0E+00                              | AU13249.1             | EST_HUMAN               | AU132340 NT2RP3 Homo sapiens cDNA clone NT2RP3004260 5'   |
| 9728             | 22378            | 35581          | 0.77              | 0.0E+00                              | AW500936.1            | EST_HUMAN               | U1-HF-BF00p-air-4-05-0-UJ1 NIH_MGC_51 Homo sapiens cDNA clone IMAGE:3072887 5'  |
| 9733             | 22384            | 36588          | 9.08              | 0.0E+00                              | BE740490.1            | EST_HUMAN               | 601585338F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:3949383 5'  |
| 9733             | 22384            | 35587          | 9.08              | 0.0E+00                              | BE740490.1            | EST_HUMAN               | 601585538F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:3949383 5'  |
| 9734             | 22385            | 36588          | 0.48              | 0.0E+00                              | AB033057.1            | NT                      | Homo sapiens mRNA for KIAA1231 protein, partial cds<br>Homo sapiens mRNA for KIAA1231 protein, partial cds  |
| 9734             | 22385            | 35589          | 0.48              | 0.0E+00                              | AB033057.1            | NT                      | Homologous gene product KIAA0345, mRNA  |
| 9747             | 22398            | 36603          | 1.73              | 0.0E+00                              | 7862067               | NT                      | DKFZp434L0120_r1 434 (synonym: hhes2) Homo sapiens cDNA clone DKFZp434L0120 5'  |
| 9765             | 22416            | 35623          | 1.59              | 0.0E+00                              | ALD42278.1            | EST_HUMAN               | DKFZp434B2416_r1 434 (synonym: hhes2) Homo sapiens cDNA clone DKFZp434B2416 5'  |
| 9770             | 22421            | 35629          | 1.53              | 0.0E+00                              | ALD41084.2            | EST_HUMAN               | AU132349 NT2RP3 Homo sapiens cDNA clone NT2RP3004260 5'   |
| 9780             | 22451            | 35638          | 2.54              | 0.0E+00                              | AU132348.1            | EST_HUMAN               | Homo sapiens protocadherin alpha 12 (PCDH1-alpha12) mRNA, complete cds  |
| 9781             | 22432            | 35637          | 2.37              | 0.0E+00                              | AF152308.1            | NT                      | Homo sapiens leukocyte immunoglobulin-like receptor-1 mRNA, complete cds  |
| 9808             | 22459            | 35684          | 2.63              | 0.0E+00                              | AF008220.1            | NT                      | Homo sapiens leukocyte immunoglobulin-like receptor-1 mRNA, complete cds  |
| 9808             | 22459            | 35685          | 2.63              | 0.0E+00                              | AF008220.1            | NT                      | Homo sapiens leukocyte immunoglobulin-like receptor-1 mRNA, complete cds  |
| 9824             | 22475            | 35678          | 1.81              | 0.0E+00                              | BF092988.1            | EST_HUMAN               | MR4-TN014-110800-01-e04 TN014 Homo sapiens cDNA   |
| 9854             | 22504            | 35704          | 2.41              | 0.0E+00                              | BE280783.1            | EST_HUMAN               | 601155227F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3138798 5'   |
| 9884             | 22514            | 36710          | 0.86              | 0.0E+00                              | BE388700.1            | EST_HUMAN               | 601286351F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3613045 5'   |
| 9884             | 22514            | 35711          | 0.86              | 0.0E+00                              | BE388700.1            | EST_HUMAN               | 601286351F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3613045 5'   |
| 9873             | 22523            | 35717          | 3.03              | 0.0E+00                              | AW286269.1            | EST_HUMAN               | xn72b01_x1 NCI_CGAP_CML1 Homo sapiens cDNA clone IMAGE:26888877 3' similar to gb:J02162_cds1_L-   |
| 9874             | 22524            | 35718          | 1.06              | 0.0E+00                              | AA341305.1            | EST_HUMAN               | LACTATE DEHYDROGENASE M CHAIN (HUMAN); EST46740 Fetal kidney II Homo sapiens cDNA 5' end  |
| 9894             | 22553            | 35748          | 0.97              | 0.0E+00                              | AW864113.1            | EST_HUMAN               | EST376186 MAGE sequences, MAGH Homo sapiens cDNA  |
| 9895             | 22564            | 35769          | 7.01              | 0.0E+00                              | AL143673.1            | EST_HUMAN               | AL143673 Y79AA1 Homo sapiens cDNA clone Y79AA1002307 5'   |
| 9915             | 22564            | 35760          | 7.01              | 0.0E+00                              | AL143673.1            | EST_HUMAN               | AL143673 Y79AA1 Homo sapiens cDNA clone Y79AA1002307 5'   |

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Table 4  
Single Exon Probes Expressed in Brain

| Probe Seq ID No: | Exon Seq ID No: | ORF Seq ID No: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source                          | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--|
| 9518             | 22857           | 35763          | 2.98              | 0.0E+00                              | AF072408.1            | NT   | Homo sapiens killer cell inhibitory receptor KIR1 gene, exons 2, 3, and 4                                |
| 9521             | 22859           | 35765          | 2.75              | 0.0E+00                              | 11421001              | NT   | Homo sapiens HEF like Protein (HEFL), mRNA   |
| 9521             | 22859           | 35766          | 2.75              | 0.0E+00                              | 11421001              | NT   | Homo sapiens HEF like Protein (HEFL), mRNA   |
| 9556             | 22854           | 35809          | 3                 | 0.0E+00                              | AU136837              | PLACE:1 Homo sapiens cDNA clone PLACE:1004737 5' |  |
| 9556             | 22854           | 35810          | 3                 | 0.0E+00                              | AU136837              | PLACE:1 Homo sapiens cDNA clone PLACE:1004737 5' |  |
| 9572             | 22852           | 35824          | 2.08              | 0.0E+00                              | AJ285844.1            | NT   | Homo sapiens partial RANBP7 gene for RanBP7/imparin7 and partial ZNF143 gene                             |
| 9572             | 22852           | 35825          | 2.08              | 0.0E+00                              | AJ285844.1            | NT   | Homo sapiens partial RANBP7 gene for RanBP7/imparin7 and partial ZNF143 gene                             |
| 9577             | 22855           | 35832          | 1.04              | 0.0E+00                              | AV685712              | EST_HUMAN  | AV685712 GKC Homo sapiens cDNA clone GKCDXA07 5'   |
| 9577             | 22855           | 35833          | 1.04              | 0.0E+00                              | AV685712              | EST_HUMAN  | AV685712 GKC Homo sapiens cDNA clone GKCDXA07 5'   |
| 9583             | 22851           | 35840          | 0.74              | 0.0E+00                              | AF072408.1            | NT   | Homo sapiens killer cell inhibitory receptor KIR1 gene, exons 2, 3, and 4                                |
| 9585             | 22853           | 35843          | 3.11              | 0.0E+00                              | AA198347.1            | EST_HUMAN  | ZP97111.1 Strategene muscle 837209 Homo sapiens cDNA clone IMAGE:828197 5'                               |
| 10011            | 22859           | 35873          | 1                 | 0.0E+00                              | AA131248.1            | EST_HUMAN  | Z33101.1 Soares, pregnant uterus, NBHPU Homo sapiens cDNA clone IMAGE:503545 5'                          |
| 10011            | 22859           | 35874          | 1                 | 0.0E+00                              | AA131248.1            | EST_HUMAN  | Z33101.1 Soares, pregnant uterus, NBHPU Homo sapiens cDNA clone IMAGE:503545 5'                          |
| 100558           | 22704           | 35822          | 1.44              | 0.0E+00                              | AF778308.1            | NT   | Homo sapiens KIF4 (KIF4) mRNA, complete cds  |
| 10101            | 22749           | 35884          | 0.92              | 0.0E+00                              | BE880658.1            | EST_HUMAN  | 601491585F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3893657 5'  |
| 10112            | 22780           | 35972          | 6.22              | 0.0E+00                              | BE730772.1            | EST_HUMAN  | 601570712F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3845403 5'  |
| 10112            | 22780           | 35973          | 6.22              | 0.0E+00                              | BE730772.1            | EST_HUMAN  | 601570712F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3845403 5'  |
| 10117            | 22765           | 35977          | 0.97              | 0.0E+00                              | AU127403.1            | EST_HUMAN  | AU127403 NT2RP21-Homo sapiens cDNA clone NT2RP20/21/2.5'   |
| 10127            | 22775           | 35988          | 0.87              | 0.0E+00                              | BE958511.1            | EST_HUMAN  | 601645134F1 NIH_MGC_56 Homo sapiens cDNA clone IMAGE:38930177 5'   |
| 10127            | 22775           | 35989          | 0.87              | 0.0E+00                              | BE958511.1            | EST_HUMAN  | 601645134F1 NIH_MGC_58 Homo sapiens cDNA clone IMAGE:38930177 5'   |
| 10144            | 22792           | 36007          | 0.88              | 0.0E+00                              | BE897487.1            | EST_HUMAN  | 601432217F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:39117453 5'   |
| 10154            | 22802           | 36020          | 0.97              | 0.0E+00                              | AA311624.1            | EST_HUMAN  | EST1182333 Junkat T-cells VI Homo sapiens cDNA 5' end  |
| 10155            | 22803           | 36021          | 1.01              | 0.0E+00                              | 4758827               | NT   | Homo sapiens neutrophil III (NRNNS) mRNA   |
| 10168            | 22844           | 36032          | 0.87              | 0.0E+00                              | BE881113.1            | EST_HUMAN  | 60143222B1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:39117598 5'  |
| 10168            | 22847           | 36035          | 1.13              | 0.0E+00                              | 11560151              | NT   | Homo sapiens hypothetical C21-2 zinc finger protein FLJ22504 (FLJ22504), mRNA                            |
| 10170            | 22827           | 36041          | 1.72              | 0.0E+00                              | AB028280.1            | NT   | Homo sapiens mRNA for actin binding protein ABP620, complete cds   |
| 10180            | 22826           | 36042          | 0.46              | 0.0E+00                              | BE304522.1            | EST_HUMAN  | 601105458F1 NIH_MGC_15 Homo sapiens cDNA clone IMAGE:29887918 5'   |
| 10180            | 22826           | 36043          | 0.49              | 0.0E+00                              | BE304522.1            | EST_HUMAN  | 601105458F1 NIH_MGC_15 Homo sapiens cDNA clone IMAGE:29887918 5'   |
| 10187            | 22835           | 36048          | 6.02              | 0.0E+00                              | AB008590.1            | NT   | Homo sapiens mRNA for estrogen receptor beta, complete cds   |
| 10187            | 22835           | 36049          | 6.02              | 0.0E+00                              | AB008590.1            | NT   | Homo sapiens mRNA for estrogen receptor beta, complete cds   |
| 10183            | 22841           | 36056          | 1.06              | 0.0E+00                              | AA707447.1            | EST_HUMAN  | Z11906.51 Soares, fetal liver, spleen_1NFLS_S1 Homo sapiens cDNA clone IMAGE:450707 5' similar to M14123 |
| 10185            | 22843           | 36057          | 0.74              | 0.0E+00                              | M228291.1             | NT   | Human beta 1,4-galactosidase transferase mRNA, complete cds  |
| 10187            | 22845           | 36060          | 5.45              | 0.0E+00                              | BF340331.1            | EST_HUMAN  | 602037045F1 NC1 CGAP_Bm84 Homo sapiens cDNA clone IMAGE:4184039 5'                                       |

**Table 4**  
**Single Exon Probes Expressed in Brain**

| Probe Seq ID No. | Exon seq ID No: | ORF seq ID No: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No.                            | Top Hit Database Source  | Top Hit Descriptor  |  |
|------------------|-----------------|----------------|-------------------|----------------------------------|--|--|---|--|
|                  |                 |                |                   |                                  |  |  |   |  |
| 10167            | 22845           | 36081          | 5.45              | 0.0E+00                          | BF340631.1                                       | EST_HUMAN  | 602037045F1 NCI_CGAP_Bm64 Homo sapiens cDNA clone IMAGE:4184689 5'                                      |  |
| 10222            | 22870           | 36082          | 0.83              | 0.0E+00                          | BE897149.1                                       | EST_HUMAN  | 601439773F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3824578 5'   |  |
| 10222            | 22870           | 36083          | 0.83              | 0.0E+00                          | BE897149.1                                       | EST_HUMAN  | 601439773F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3824578 5'   |  |
| 10252            | 22890           | 36110          | 0.55              | 0.0E+00                          | AV716271.1                                       | EST_HUMAN  | AV716271 DCB Homo sapiens cDNA clone DCBBDC09 5'  |  |
| 10252            | 22890           | 36111          | 0.55              | 0.0E+00                          | AV716271.1                                       | EST_HUMAN  | AV716271 DCB Homo sapiens cDNA clone DCBBDC09 5'  |  |
| 10282            | 22890           | 36143          | 2.36              | 0.0E+00                          | AI831818.1                                       | EST_HUMAN  | ws38603_x1 NCI_CGAP_Kid11 Homo sapiens cDNA clone IMAGE:2300188 3' similar to TR-Q81204                 |  |
| 10282            | 22890           | 36144          | 2.36              | 0.0E+00                          | AI831818.1                                       | EST_HUMAN  | Q81204 NOTCH2-LIKE :  |  |
| 10288            | 22898           | 36149          | 0.49              | 0.0E+00                          | 11545730 NT                                      | Homo sapiens Gigaxonin (GAN), mRNA                                     |   |  |
| 10288            | 22898           | 36150          | 1.52              | 0.0E+00                          | T03078.1   | EST_HUMAN  | FB23A4 Fetal brain, Stratagene Homo sapiens cDNA clone FB23A4 3'tand                                    |  |
| 10323            | 22910           | 36190          | 0.64              | 0.0E+00                          | AI122428.1                                       | EST_HUMAN  | AU122429 MAMMA1 Homo sapiens cDNA clone MAMMA1023988 5'   |  |
| 10328            | 22916           | 36196          | 0.46              | 0.0E+00                          | 6005821 NT                                       | Homo sapiens triple functional domain (PTPRF Interacting) (TRIO), mRNA |   |  |
| 10348            | 22965           | 36214          | 2.5               | 0.0E+00                          | BF438218.1                                       | EST_HUMAN  | nsd45e12_x1 Scores: NSF_F8 9W_OTPA_P S1 Homo sapiens cDNA clone IMAGE:32865271 3'                       |  |
| 10349            | 22968           |                | 0.97              | 0.0E+00                          | AV654765 GLC Homo sapiens cDNA clone GLCDZC07 3' | EST_HUMAN  | AV654765 GLC Homo sapiens cDNA clone GLCDZC07 3'  |  |
| 10360            | 23015           | 36231          | 2.75              | 0.0E+00                          | AW517980.1                                       | EST_HUMAN  | xu74b01_x1 NCI_CGAP_Kid8 Homo sapiens cDNA clone IMAGE:2807401 3' similar to gb:M680688 MOESIN (HUMAN); |  |
| 10374            | 23020           | 36236          | 8.82              | 0.0E+00                          | BE548273.1                                       | EST_HUMAN  | 601078784F1 NIH_MGC_12 Homo sapiens cDNA clone IMAGE:344703 5'  |  |
| 10369            | 23035           | 36251          | 0.75              | 0.0E+00                          | 11436005 NT                                      | Homo sapiens hypothetical protein DKF4p761P1010 (DKF4p761P1010), mRNA  |   |  |
| 10414            | 23050           | 36279          | 2.79              | 0.0E+00                          | BE781742.1                                       | EST_HUMAN  | 601467419F1 NIH_MGC_67 Homo sapiens cDNA clone IMAGE:3870700 5'   |  |
| 10435            | 23081           | 36307          | 1.9               | 0.0E+00                          | BE082720.1                                       | EST_HUMAN  | RC22-B10842-15020-012-d03 B10842 Homo sapiens cDNA  |  |
| 10442            | 23098           | 36316          | 0.89              | 0.0E+00                          | Y08032.1   | EST_HUMAN  | RC22-B10842-15020-012-d03 B10842 Homo sapiens cDNA  |  |
| 10448            | 23094           | 36325          | 0.89              | 0.0E+00                          | AI656880.1                                       | EST_HUMAN  | Human endogenous retrovirus-K, LTR U6 and gag gene  |  |
| 10454            | 23100           | 36331          | 1.33              | 0.0E+00                          | BE743215.1                                       | EST_HUMAN  | t54607_x1 NCI_CGAP_GCB Homo sapiens cDNA clone IMAGE:2244612 3'   |  |
| 10454            | 23100           | 36332          | 1.33              | 0.0E+00                          | BE743215.1                                       | EST_HUMAN  | 601573885F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:3835198 5'  |  |
| 10459            | 23105           | 36336          | 2.49              | 0.0E+00                          | BE617685.1                                       | EST_HUMAN  | 601573885F1 NIH_MGC_9 Homo sapiens cDNA clone IMAGE:3835198 5'  |  |
| 10459            | 23105           | 36338          | 2.49              | 0.0E+00                          | BE617685.1                                       | EST_HUMAN  | 60144172371 NIH_MGC_65 Homo sapiens cDNA clone IMAGE:3845953 3'   |  |
| 10481            | 23127           | 36355          | 0.57              | 0.0E+00                          | I-389805.1                                       | EST_HUMAN  | yp01er10.1 Scores: breast 3NBH8t! Homo sapiens cDNA clone IMAGE:188138 5'                               |  |
| 10508            | 23154           | 36380          | 1.01              | 0.0E+00                          | D87675.1   | NT   | Homo sapiens DNA for amyloid precursor protein, complete cds  |  |
| 10510            | 23156           | 36382          | 0.45              | 0.0E+00                          | AF0813634.1                                      | NT   | Synthetic construct C320 ligand-binding A fusion protein (C320-ETA fusion) mRNA, partial cds            |  |
| 10519            | 23165           | 36382          | 1.02              | 0.0E+00                          | BE172254.1                                       | EST_HUMAN  | MFO-HT0559-273030-008-e12 HT0559 Homo sapiens cDNA  |  |
| 10519            | 23165           | 36383          | 1.02              | 0.0E+00                          | BE172254.1                                       | EST_HUMAN  | MFO-HT0559-273030-008-e12 HT0559 Homo sapiens cDNA  |  |
| 10532            | 23229           | 36483          | 2.73              | 0.0E+00                          | AV711076.1                                       | EST_HUMAN  | AV711076 Cai Homo sapiens cDNA clone CaiAKC05 5'  |  |

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Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|---|
| 10532            | 23229           | 36464          | 2.76              | 0.0E+00                              | AV711075.1            | EST_HUMAN  | AV711075.1 Hu Homo sapiens cDNA clone IMAGE:2465 5'   |
| 10534            | 23231           |                | 2.13              | 0.0E+00                              | AW813783.1            | EST_HUMAN  | RC3-ST0197-12/2020-015-ac3 ST0197 Homo sapiens cDNA EST:ST0197 MAGE_7 sequences, MAGE_7 Homo sapiens cDNA                   |
| 10542            | 23238           | 36472          | 7.02              | 0.0E+00                              | AW868563.1            | EST_HUMAN  | EST376638 Homo sapiens ATP-binding cassette, sub-family A (ABCA), member 3 (ABCA3), mRNA                                    |
| 10555            | 23251           | 36487          | 3.19              | 0.0E+00                              | 11431124.NT           | Homo sapiens ATP-binding cassette, sub-family A (ABCA), member 3 (ABCA3), mRNA | Homo sapiens cDNA clone IMAGE:2553085 3' similar to IMAGE:2553085 5'  |
| 10555            | 23251           | 36488          | 3.19              | 0.0E+00                              | 11431124.NT           | -  | WY0109.x1 Scores_NSF_F8_9W_OT_PA_P_S Homo sapiens cDNA clone TR:Q80568 Q80566 VDX;  |
| 10559            | 23255           | 36492          | 2.09              | 0.0E+00                              | AW057621.1            | EST_HUMAN  | TCAAFA3D0917 Pediatric acute myelogenous leukemic cell (FAB M1) Baylor-HGSC project=TCAA_Homo sapiens cDNA clone TCAA0917   |
| 10567            | 23262           | 36498          | 1.8               | 0.0E+00                              | BE243270.1            | EST_HUMAN  | WH28er12x1 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE:23068974 3' similar to contains element MSR1 MSR1 repetitive element: |
| 10568            | 23263           | 36500          | 2.85              | 0.0E+00                              | AI852239.1            | EST_HUMAN  | WH28er12x1 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE:23068974 3' similar to contains element MSR1 MSR1 repetitive element: |
| 10568            | 23263           | 36501          | 2.85              | 0.0E+00                              | AI852239.1            | EST_HUMAN  | MSR1 MSR1 repetitive element:   |
| 10573            | 23268           | 36506          | 1.54              | 0.0E+00                              | BF30568-32.1          | EST_HUMAN  | G011886704F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:4122649 5'  |
| 10590            | 23275           | 36512          | 5.08              | 0.0E+00                              | 11545911.NT           | Homo sapiens NOD2 protein (NOD2), mRNA   | Homo sapiens NOD2 protein (NOD2), mRNA  |
| 10590            | 23275           | 36513          | 5.00              | 0.0E+00                              | 11545911.NT           | Homo sapiens NOD2 protein (NOD2), mRNA   | Homo sapiens NOD2 protein (NOD2), mRNA  |
| 10598            | 23290           | 36528          | 1.98              | 0.0E+00                              | AW404785.1            | EST_HUMAN  | UHF-BL0-ecm-d-04-U-1 NIH_MGC_37 Homo sapiens cDNA clone IMAGE:3059383 5'  |
| 10600            | 23294           | 36533          | 3.17              | 0.0E+00                              | 11424829.NT           | Homo sapiens hypothetical protein FLJ20079 (FLJ20079), mRNA                    | Homo sapiens 5-hydroxytryptamine (serotonin) receptor 1E (HTR1E) mRNA   |
| 10601            | 23295           | 36534          | 7.47              | 0.0E+00                              | 4504536.NT            | Homo sapiens 5-hydroxytryptamine (serotonin) receptor 1E (HTR1E) mRNA          | Homo sapiens 5-hydroxytryptamine (serotonin) receptor 1E (HTR1E) mRNA   |
| 10601            | 23295           | 36535          | 7.47              | 0.0E+00                              | 4504536.NT            | Homo sapiens 5-hydroxytryptamine (serotonin) receptor 1E (HTR1E) mRNA          | Homo sapiens 5-hydroxytryptamine (serotonin) receptor 1E (HTR1E) mRNA   |
| 10602            | 23298           | 36536          | 3.69              | 0.0E+00                              | A1991827.1            | EST_HUMAN  | WU32606.x1 Scores_Dictegastase cation NHCD Homo sapiens cDNA clone IMAGE:2521715 3'   |
| 10605            | 23299           | 36540          | 4.49              | 0.0E+00                              | BE882109.1            | EST_HUMAN  | 6011605204F2 NIH_MGC_71 Homo sapiens cDNA clone IMAGE:3906865 5'  |
| 10609            | 23303           | 36542          | 8.24              | 0.0E+00                              | BE891630.1            | EST_HUMAN  | 6011434522F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3919636 5'  |
| 10612            | 23308           | 36544          | 1.86              | 0.0E+00                              | 89223939.NT           | Homo sapiens myosin, heavy polypeptide 2, skeletal muscle, adult (MTH2), mRNA  | Homo sapiens myosin, heavy polypeptide 2, skeletal muscle, adult (MTH2), mRNA   |
| 10612            | 23308           | 36545          | 1.66              | 0.0E+00                              | 89223939.NT           | Homo sapiens myosin, heavy polypeptide 2, skeletal muscle, adult (MTH2), mRNA  | Homo sapiens myosin, heavy polypeptide 2, skeletal muscle, adult (MTH2), mRNA   |
| 10618            | 23312           | 36551          | 1.4               | 0.0E+00                              | AB014608.1            | EST_HUMAN  | Homo sapiens mRNA for KIAA0708 protein, partial cds   |
| 10618            | 23312           | 36552          | 1.4               | 0.0E+00                              | AB014608.1            | EST_HUMAN  | Homo sapiens mRNA for KIAA0708 protein, partial cds   |
| 10628            | 23321           | 36558          | 1.31              | 0.0E+00                              | BE90304.1             | EST_HUMAN  | 601674332F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3957343 5'   |
| 10631            | 18494           | \$1403         | 1.65              | 0.0E+00                              | AA1065905.1           | EST_HUMAN  | ZB85b11.11 Striagene muscle 837209 Homo sapiens cDNA clone IMAGE:827833 5' similar to gb:X03740                             |
| 10632            | 23343           | 36581          | 5.53              | 0.0E+00                              | BE792498.1            | EST_HUMAN  | MTO SIN HEAVY CHAIN, SKELETAL MUSCLE (HUMAN);   |
| 10660            | 23351           | 36588          | 1.78              | 0.0E+00                              | BE722706.1            | EST_HUMAN  | 6015888829F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:3832575 5'  |
| 10660            | 23351           | 36589          | 1.78              | 0.0E+00                              | BE722708.1            | EST_HUMAN  | 601582884F1 NIH_MGC_20 Homo sapiens cDNA clone IMAGE:3832575 5'   |
| 10661            | 23352           | 36590          | 33.89             | 0.0E+00                              | AV727382.1            | EST_HUMAN  | AV727382 HTC Homo sapiens cDNA clone HTCAQH08 5'  |

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Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) BLAST E Value | Top Hit Accession No. | Top Hit Database Source | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|----------------------------------|-----------------------|-------------------------|--|
| 10681            | 23352           | 36591          | 33.99             | 0.0E+00                          | AV727352.1            | EST_HUMAN               | AV727352 HTC Homo sapiens cDNA clone HTCAQH06 5'   |
| 10674            | 23365           | 36608          | 9.59              | 0.0E+00                          | AW516055.1            | EST_HUMAN               | xj04g10_21 NCI_CGAP_Lym12 Homo sapiens cDNA clone IMAGE:2852226 3' similar to gb:MG0854 40S RIBOSOMAL PROTEIN S16 (HUMAN)    |
| 10680            | 23371           | 36613          | 3.18              | 0.0E+00                          | AU135741.1            | EST_HUMAN               | AU135741 PLACE1 Homo sapiens cDNA clone PLACE1002784 5'  |
| 10686            | 23377           | 36617          | 3.41              | 0.0E+00                          | AW563333.1            | EST_HUMAN               | hg13d02_x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2945475 3' similar to contains element MSR1 repetitive element; |
| 10686            | 23377           | 36618          | 3.41              | 0.0E+00                          | AW563333.1            | EST_HUMAN               | hg13d02_x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2945475 3' similar to contains element MSR1 repetitive element; |
| 10688            | 23377           | 36619          | 3.41              | 0.0E+00                          | AW563333.1            | EST_HUMAN               | hg13d02_x1 Soares_NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2945475 3' similar to contains element MSR1 repetitive element; |
| 10688            | 23379           | 36620          | 1.89              | 0.0E+00                          | Z34897.1              | NT                      | H_sapiens mRNA for H1 histamine receptor   |
| 10689            | 23380           | 36621          | 2.97              | 0.0E+00                          | F13089.1              | EST_HUMAN               | HSC3IC031 normalized infant brain cDNA Homo sapiens cDNA clone c-3ic03   |
| 10700            | 23391           | 36629          | 1.79              | 0.0E+00                          | D10083.1              | NT                      | Homo sapiens RGH1 gene, retrovirus-like element  |
| 10706            | 23398           | 36634          | 1.33              | 0.0E+00                          | 4758281               | NT                      | Homo sapiens EphA7 (EPHA7) mRNA  |
| 10706            | 23398           | 36635          | 1.33              | 0.0E+00                          | 4758281               | NT                      | Homo sapiens EphA7 (EPHA7) mRNA  |
| 10718            | 23407           | 36648          | 2.13              | 0.0E+00                          | AW358094.1            | EST_HUMAN               | xm68f01_x1 NCI_CGAP_Pan1 Homo sapiens cDNA clone IMAGE:2832865 3' similar to gb:XJ7116 TG MU CHAIN C REGION (HUMAN);         |
| 10719            | 23408           | 36649          | 4.62              | 0.0E+00                          | AW451230.1            | EST_HUMAN               | UH-BI3-ell-e_0-0-UJ_1 NCI_CGAP_Sub5 Homo sapiens cDNA clone IMAGE:273649 3'  |
| 10719            | 23408           | 36650          | 4.62              | 0.0E+00                          | AW451230.1            | EST_HUMAN               | UH-BI3-ell-e_0-0-UJ_1 NCI_CGAP_Sub6 Homo sapiens cDNA clone IMAGE:273649 3'  |
| 10721            | 13021           |                | 11.67             | 0.0E+00                          | 4506832               | NT                      | Homo sapiens ribosomal protein L31 (RPL31) mRNA  |
| 10723            | 23411           | 36652          | 2.53              | 0.0E+00                          | AB014587.1            | NT                      | Homo sapiens mRNA for KIAA0867 protein, partial cds  |
| 10738            | 23425           | 36670          | 1.98              | 0.0E+00                          | BE29849.1             | EST_HUMAN               | 601119248F1 NIH MGCG_17 Homo sapiens cDNA clone IMAGE:3029218 5'   |
| 10754            | 23439           | 36683          | 2.04              | 0.0E+00                          | AB011117.1            | NT                      | Homo sapiens mRNA for KIAA0545 protein, partial cds  |
| 10763            | 23447           |                | 1.71              | 0.0E+00                          | AU124106.1            | EST_HUMAN               | AU124106 NT2RM2001675 5'   |
| 10771            | 23454           | 36697          | 1.45              | 0.0E+00                          | AB029040.1            | NT                      | Homo sapiens mRNA for KIAA1117 protein, partial cds  |
| 10771            | 23454           | 36698          | 1.45              | 0.0E+00                          | AB028040.1            | NT                      | Homo sapiens mRNA for KIAA1117 protein, partial cds  |
| 10776            | 23459           | 36702          | 4.04              | 0.0E+00                          | BE782165.1            | EST_HUMAN               | 601682048F1 NIH MGCG_7 Homo sapiens cDNA clone IMAGE:3326539 5'  |
| 10777            | 23460           |                | 58.14             | 0.0E+00                          | BF844961.1            | EST_HUMAN               | 602141405F1 NIH MGCG_48 Homo sapiens cDNA clone IMAGE:4302432 5'   |
| 10778            | 23461           | 36703          | 1.3               | 0.0E+00                          | BE269298.1            | EST_HUMAN               | 6011863-32F1 NIH MGCG_8 Homo sapiens cDNA clone IMAGE:3644269 5'   |
| 10781            | 23464           | 36706          | 5.6               | 0.0E+00                          | AU118586.1            | EST_HUMAN               | AU118586 HEMBA1 Homo sapiens cDNA clone HEMBA1003488 5'  |
| 10788            | 23469           | 36710          | 6.53              | 0.0E+00                          | AU149809.1            | EST_HUMAN               | qf43c03_x1 Soares_Bestsis_NHT Homo sapiens cDNA clone IMAGE:1752772 3'   |
| 10788            | 23469           | 36711          | 6.53              | 0.0E+00                          | AU149809.1            | EST_HUMAN               | qf43c03_x1 Soares_Bestsis_NHT Homo sapiens cDNA clone IMAGE:1752772 3'   |
| 10787            | 23470           | 36712          | 3.04              | 0.0E+00                          | AW391837.1            | EST_HUMAN               | QV4-ST0234-121189-032_bb6 ST0234 Homo sapiens cDNA   |

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## Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Database Source   | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|----------------------------|-----------------------|---|---|
| 10788            | 23481           | 36721          | 4.39              | 0.0E+00 AF223391.1         | NT                    |   | Homo sapiens calcium channel alpha1E subunit (CACNA1E) gene, exons 7-49, and partial cds, alternatively spliced |
| 10788            | 23481           | 36722          | 4.39              | 0.0E+00 AF223391.1         | NT                    |   | Homo sapiens calcium channel alpha1E subunit (CACNA1E) gene, exons 7-49, and partial cds, alternatively spliced |
| 10807            | 23490           | 36725          | 9.57              | 0.0E+00 11424726 NT        |                       |   | Homo sapiens insulin receptor (INSR), mRNA  |
| 10814            | 23497           | 36733          | 1.42              | 0.0E+00 AW804516.1         | EST_HUMAN             | QY6-LJM0083-170-400-181-306 UM0083 Homo sapiens cDNA  |   |
| 10814            | 23497           | 36734          | 1.42              | 0.0E+00 AW804516.1         | EST_HUMAN             | QY6-LJM0083-170-400-181-306 UM0083 Homo sapiens cDNA  |   |
| 10815            | 23498           | 36735          | 1.6               | 0.0E+00 BF340308.1         | EST_HUMAN             | 602037014F1 NCI_CGAP_Bm04 Homo sapiens cDNA clone IMAGE:4184979 5'                            |   |
| 10817            | 23500           | 36738          | 52.94             | 0.0E+00 BE281209.1         | EST_HUMAN             | 601148357F1 NIH_MGC_19 Homo sapiens cDNA clone IMAGE:3168310 5'                               |   |
| 10821            | 23504           | 36743          | 2.37              | 0.0E+00 AB028040.1         | NT                    | Homo sapiens mRNA for KIAA1117 protein, partial cds   |   |
| 10824            | 23507           | 36748          | 1.68              | 0.0E+00 AB017832.1         | NT                    | Homo sapiens mRNA for KIAA0463 protein, partial cds   |   |
| 10828            | 23510           | 36750          | 3.47              | 0.0E+00 U50328.1           | NT                    | Human protein kinase C substrate 80K-H (PRKCSDH) gene, exon 15-17                             |   |
| 10832            | 23514           | 36755          | 1.55              | 0.0E+00 BE773038.1         | EST_HUMAN             | RC1-FT0134-170-70-012-07 FT0134 Homo sapiens cDNA   |   |
| 10832            | 23514           | 36758          | 1.55              | 0.0E+00 BE773038.1         | EST_HUMAN             | RC1-FT0134-170-70-012-07 FT0134 Homo sapiens cDNA   |   |
| 10838            | 23520           | 36762          | 1.47              | 0.0E+00 W21828.1           | EST_HUMAN             | 57E10 Human retina cDNA Tsp503I-cleaved sublibrary Homo sapiens cDNA not directional          |   |
| 10854            | 23524           | 36770          | 138.91            | 0.0E+00 AA740782.1         | EST_HUMAN             | cb32a07_a1 NCI_OGAP_Kid5 Homo sapiens cDNA clone IMAGE:1926412 3' similar to contains element |   |
| 10857            | 23537           | 36783          | 2.05              | 0.0E+00 AW486822.1         | EST_HUMAN             | MSR1 repetitive element;  |   |
| 10863            | 23543           | 36790          | 2.91              | 0.0E+00 AF252303.1         | NT                    | ha04h04_x1 NCI_OGAP_Kid12 Homo sapiens cDNA clone IMAGE:2872759 3'                            |   |
| 10879            | 23559           | 36806          | 7.34              | 0.0E+00 CO5089.1           | EST_HUMAN             | Home sapiens signaling lymphocytic activation molecule (SLAM) gene, exon 2                    |   |
| 10886            | 23568           | 36814          | 2.31              | 0.0E+00 AA746375.1         | EST_HUMAN             | Q55601_1.NCI_OGAP_GC81 Homo sapiens cDNA clone 3NHC4817                                       |   |
| 10886            | 23568           | 36815          | 2.31              | 0.0E+00 AA746375.1         | EST_HUMAN             | Q55601_1.NCI_OGAP_GC81 Homo sapiens cDNA clone IMAGE:1308008 5'                               |   |
| 10895            | 23575           | 36825          | 3.74              | 0.0E+00 M78448.1           | EST_HUMAN             | EST00558 Fetal brain, Strategene (cat#836208) Homo sapiens cDNA clone HFBCCC28                |   |
| 10895            | 23575           | 36826          | 3.74              | 0.0E+00 M78448.1           | EST_HUMAN             | EST00558 Fetal brain, Strategene (cat#836208) Homo sapiens cDNA clone HFBCCC28                |   |
| 10898            | 23578           | 36827          | 0.32              | 0.0E+00 AL157688.1         | EST_HUMAN             | DKFZp761j2116_f_1761 (synonym: hmyz2) Homo sapiens cDNA clone DKFZp761j2116_5'                |   |
| 10910            | 23590           | 36836          | 5.81              | 0.0E+00 AL116888.1         | EST_HUMAN             | AU116888 HEMBA1 Homo sapiens cDNA clone HEMBA1000424 5'                                       |   |
| 10924            | 23604           | 36853          | 1.84              | 0.0E+00 AV8932658.1        | EST_HUMAN             | AV8932658 GKC Homo sapiens cDNA clone GKCNCNC08 5'  |   |
| 10932            | 23612           | 36862          | 2.09              | 0.0E+00 BF288523.1         | EST_HUMAN             | IL3-NT0104-20500-143-A07 NT0104 Homo sapiens cDNA   |   |
| 10935            | 18369           | 31311          | 2.73              | 0.0E+00 AB035288.1         | NT                    | Home sapiens mRNA for neureath II, complete cds   |   |
| 10935            | 18369           | 31312          | 2.73              | 0.0E+00 AB035288.1         | NT                    | Home sapiens mRNA for neureath II, complete cds   |   |
| 10936            | 23638           | 36887          | 2.84              | 0.0E+00 BE1822360.1        | EST_HUMAN             | PM0-HT0845-080500-002-E05 HT0845 Homo sapiens cDNA  |   |
| 10961            | 23637           |                | 2.84              | 0.0E+00 BE1822360.1        | EST_HUMAN             | PM0-HT0845-080500-002-E05 HT0845 Homo sapiens cDNA  |   |
| 10960            | 23635           | 36808          | 4.07              | 0.0E+00 BE893423.1         | EST_HUMAN             | AV701152 ADA Homo sapiens cDNA clone ADAAAD08 5'  |   |
|                  |                 |                |                   |                            |                       | 601439092F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3924142 5'                               |   |

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## Single Exon Probes Expressed In Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E-Value | Top Hit Accession No.   | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|-------------------|--------------------------------------|---|--|--------------------|
| 10889 23683      | 36919           | 1.85           | 0.0E+00           | AW600307.1                           | EST_HUMAN   | UHF-BN0-akg-d-02-0-U_1 NIH_MGC_50 Homo sapiens cDNA clone IMAGE:3077019 5'   |                    |
| 10889 23683      | 36920           | 1.85           | 0.0E+00           | AW600307.1                           | EST_HUMAN   | UHF-BN0-akg-d-02-0-U_1 NIH_MGC_50 Homo sapiens cDNA clone IMAGE:3077019 5'   |                    |
|                  |                 |                |                   |                                      |   | b678c04_Y1 NIH_MGC_10 Homo sapiens cDNA clone IMAGE:3048488 5' similar to qb:\Y00345_cds1 POLYADENYLATE-BINDING PROTEIN (HUMAN); qb:X65563 M.musculus mRNA for pcf(A) binding protein (MOUSE); |                    |
| 10892 23686      | 36923           | 2.39           | 0.0E+00           | BE016283.1                           | EST_HUMAN   | EST_HUMAN  |                    |
| 11016 23688      | 36949           | 1.77           | 0.0E+00           | BF628807.1                           | EST_HUMAN   | 602043377F1 NCI_CGAP_Bm87 Homo sapiens cDNA clone IMAGE:4181088 5'   |                    |
| 11016 23688      | 36950           | 1.77           | 0.0E+00           | BF628807.1                           | EST_HUMAN   | 602043377F1 NCI_CGAP_Bm87 Homo sapiens cDNA clone IMAGE:4181088 5'   |                    |
| 11016 23688      | 36951           | 1.77           | 0.0E+00           | BF628807.1                           | EST_HUMAN   | 602043377F1 NCI_CGAP_Bm87 Homo sapiens cDNA clone IMAGE:4181088 5'   |                    |
| 11028 25133      | 36964           | 1.27           | 0.0E+00           | AW387788.1                           | EST_HUMAN   | MR4-ST0118-041098-010-A12_S10118 Homo sapiens cDNA   |                    |
| 11028 26133      | 36965           | 1.27           | 0.0E+00           | AW387788.1                           | EST_HUMAN   | MR4-ST0118-041098-010-A12_S10118 Homo sapiens cDNA   |                    |
| 11034 23705      | 36973           | 1.53           | 0.0E+00           | 4758281 NT                           | Homo sapiens EphA7 (EPHA7) mRNA   |  |                    |
| 11035 23706      | 36974           | 8.73           | 0.0E+00           | BE897853.1                           | EST_HUMAN   | 601440446F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3925403 5'  |                    |
| 11037 23708      | 36977           | 1.89           | 0.0E+00           | AI488548.1                           | EST_HUMAN   | ac88g11_x1 Schiller meningioma Homo sapiens cDNA clone IMAGE:1852804 3'  |                    |
| 11037 23708      | 36978           | 1.89           | 0.0E+00           | AI488545.1                           | EST_HUMAN   | ac88g11_x1 Schiller meningioma Homo sapiens cDNA clone IMAGE:1852804 3'  |                    |
| 11051 23721      | 36992           | 2.76           | 0.0E+00           | AL042278.1                           | EST_HUMAN   | DKFZp434L0120_11_434 (synonym: ihes3) Homo sapiens cDNA clone DKFZp434L0120 5'   |                    |
| 11083 23763      | 37028           | 1.81           | 0.0E+00           | 10880882 NT                          | Homo sapiens gephyrin (GPH) mRNA  |  |                    |
| 11085 23755      | 37031           | 3.88           | 0.0E+00           | 4758287 NT                           | Homo sapiens neurokinin III (NRXN3) mRNA                                  |  |                    |
| 11088 23756      | 37032           | 2.67           | 0.0E+00           | BF208581.1                           | EST_HUMAN   | 601870802F1 NIH_MGC_18 Homo sapiens cDNA clone IMAGE:4101433 5'  |                    |
| 11091 23761      | 37038           | 12.22          | 0.0E+00           | AW207734.1                           | EST_HUMAN   | U1H-B12-age-n-01_s1 NC_CGAP_Sub4 Homo sapiens cDNA clone IMAGE:272312 3'   |                    |
| 11098 23768      | 37040           | 4.23           | 0.0E+00           | AB016280.1                           | NT  | Homo sapiens mRNA for KIAA0717 protein, partial cds  |                    |
| 11098 23768      | 37041           | 4.23           | 0.0E+00           | AB016280.1                           | NT  | Homo sapiens mRNA for KIAA0717 protein, partial cds  |                    |
| 11098 23768      | 37043           | 2.69           | 0.0E+00           | BE206846.1                           | EST_HUMAN   | ba04d07_Y1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2823373 5' similar to TR:O76022_O76022_E1B-65KDA-ASSOCIATED PROTEIN.;   |                    |
| 11098 23768      | 37044           | 2.69           | 0.0E+00           | BE206846.1                           | EST_HUMAN   | ba04d07_Y1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:2823373 5' similar to TR:O76022_O76022_E1B-65KDA-ASSOCIATED PROTEIN.;   |                    |
| 11110 23780      | 37055           | 1.9            | 0.0E+00           | 11628409 NT                          | Homo sapiens KIAA0428 gene product (KIAA0428), mRNA                       |  |                    |
| 11124 23783      | 37069           | 1.52           | 0.0E+00           | 11024711 NT                          | Homo sapiens myosin, heavy polypeptide 4, skeletal muscle (MYH4), mRNA    |  |                    |
| 11127 23052      | 33133           | 1.5            | 0.0E+00           | L32832.1 NT                          | Homo sapiens zinc finger homeodomain protein (ATBF1-A) mRNA, complete cds |  |                    |
| 11131 23789      | 37074           | 3.84           | 0.0E+00           | BE148078.1                           | EST_HUMAN   | RC3-HT0230-040509-1104-04 HT0230 Homo sapiens cDNA   |                    |
| 11131 23789      | 37075           | 3.84           | 0.0E+00           | BE148078.1                           | EST_HUMAN   | RC3-HT0230-040500-1104-04 HT0230 Homo sapiens cDNA   |                    |
| 11154 23821      | 37101           | 1.98           | 0.0E+00           | AW673489.1                           | EST_HUMAN   | ba54d08_Y2 NIH_MGC_10 Homo sapiens cDNA clone IMAGE:2900367 5' similar to TR:O60275_O60275   |                    |
| 11154 23821      | 37102           | 1.96           | 0.0E+00           | AW673489.1                           | EST_HUMAN   | KIAA0522 PROTEIN;  |                    |

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**Table 4**  
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| Probe<br>SEQ<br>ID<br>NO: | Exon<br>SEQ ID<br>NO: | ORF SEQ<br>ID NO: | Expression<br>Signal | Most Similar<br>(Top) Hit<br>BLAST E<br>Value | Top Hit<br>Accession<br>No. | Top Hit<br>Database<br>Source                  | Top Hit Descriptor  |                               |
|---------------------------|-----------------------|-------------------|----------------------|---|-----------------------------|--|---|-------------------------------|
|                           |                       |                   |                      |   |                             |  | Top Hit<br>Accession<br>No.   | Top Hit<br>Database<br>Source |
| 11178                     | 23843                 | 37128             | 6.21                 | 0.0E+00                                       | BF507878.1                  | EST_HUMAN                                      | U1+H-B14-eak-b-10-0-U..s1 NCI_CGAP_Sub8 Homo sapiens cDNA clone IMAGE:30850263'                                 |                               |
| 11178                     | 23843                 | 37128             | 6.21                 | 0.0E+00                                       | BF507878.1                  | EST_HUMAN                                      | U1+H-B14-eak-b-10-0-U..s1 NCI_CGAP_Sub8 Homo sapiens cDNA clone IMAGE:30850263'                                 |                               |
| 11185                     | 23850                 | 37136             | 1.57                 | 0.0E+00                                       | ALJ35170                    | PLACE1_Homo sapiens cDNA clone PLACE1001381 5' |   |                               |
| 11189                     | 23854                 | 37140             | 1.52                 | 0.0E+00                                       | BF576138.1                  | EST_HUMAN                                      | 602132459F1 NIH_MGC_81 Homo sapiens cDNA clone IMAGE:4271630 5'   |                               |
| 11189                     | 23854                 | 37141             | 1.52                 | 0.0E+00                                       | BF576138.1                  | EST_HUMAN                                      | 602132459F1 NIH_MGC_81 Homo sapiens cDNA clone IMAGE:4271630 5'   |                               |
| 11190                     | 23855                 | 37142             | 1.57                 | 0.0E+00                                       | BF088811.1                  | EST_HUMAN                                      | RC3-GN0088-190800-011-026 GN0088 Homo sapiens cDNA clone IMAGE:3889207 5'                                       |                               |
| 11192                     | 23857                 | 37143             | 5.5                  | 0.0E+00                                       | BE378401.1                  | EST_HUMAN                                      | 6014888828F1 NIH_MGC_88 Homo sapiens cDNA clone IMAGE:3889207 5'  |                               |
| 11192                     | 23857                 | 37144             | 5                    | 0.0E+00                                       | BE378401.1                  | EST_HUMAN                                      | 6014888828F1 NIH_MGC_88 Homo sapiens cDNA clone IMAGE:3889207 5'  |                               |
| 11189                     | 23864                 | 37150             | 1.94                 | 0.0E+00                                       | D57682.1                    | NT   | Human mRNA for KIAA0241 gene, partial cds   |                               |
| 11204                     | 23868                 |                   | 5.85                 | 0.0E+00                                       | BF240588.1                  | EST_HUMAN                                      | 601676630F1 NIH_MGC_55 Homo sapiens cDNA clone IMAGE:4089710 5'   |                               |
| 11218                     | 23881                 | 37168             | 2.04                 | 0.0E+00                                       | AB037737.1                  | NT   | Human sapiens mRNA for KIAA1316 protein, partial cds  |                               |
| 11218                     | 23881                 | 37167             | 2.04                 | 0.0E+00                                       | AB037737.1                  | NT   | Human sapiens mRNA for KIAA1316 protein, partial cds  |                               |
| 11222                     | 23885                 | 37170             | 4.17                 | 0.0E+00                                       | 114308888                   | NT   | Human sapiens retinoblastoma-like 2 (p130) (RBL2), mRNA   |                               |
| 11222                     | 23885                 | 37171             | 4.17                 | 0.0E+00                                       | 114308888                   | NT   | Human sapiens retinoblastoma-like 2 (p130) (RBL2), mRNA   |                               |
| 11230                     | 23883                 | 37179             | 1.8                  | 0.0E+00                                       | AA772837.1                  | EST_HUMAN                                      | aa74g04.s1 Strategene schizo brain S11 Homo sapiens cDNA clone IMAGE:3689492 3'                                 |                               |
| 11241                     | 23903                 | 37192             | 1.82                 | 0.0E+00                                       | AF223391.1                  | NT   | Human sapiens calcium channel alpha1E subunit (CACNA1E) gene, exons 7-9, and partial cds, alternatively spliced |                               |
| 11241                     | 23903                 | 37193             | 1.82                 | 0.0E+00                                       | AF223391.1                  | NT   | Human sapiens calcium channel alpha1E subunit (CACNA1E) gene, exons 7-9, and partial cds, alternatively spliced |                               |
| 11244                     | 23906                 | 37198             | 6.19                 | 0.0E+00                                       | 4503544                     | NT   | Human sapiens eukaryotic translation initiation factor 5A (EIF5A) mRNA  |                               |
| 11251                     | 23913                 | 37205             | 1.39                 | 0.0E+00                                       | BF576237.1                  | EST_HUMAN                                      | 602134132F1 NIH_MGC_81 Homo sapiens cDNA clone IMAGE:42886502 5'  |                               |
| 11254                     | 23916                 | 37209             | 6.84                 | 0.0E+00                                       | AW328173.1                  | EST_HUMAN                                      | chr04g05.x1 NIH_MGC_3 Homo sapiens cDNA clone IMAGE:2847177 5'  |                               |
| 11258                     | 23920                 |                   | 71.98                | 0.0E+00                                       | M55083.1                    | NT   | Human gamma actin-like pseudogene, complete cds   |                               |
| 11264                     | 23926                 | 37216             | 2.93                 | 0.0E+00                                       | BF308398.1                  | EST_HUMAN                                      | 601888823F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:4123948 5'   |                               |
| 11264                     | 23926                 | 37217             | 2.93                 | 0.0E+00                                       | BF308398.1                  | EST_HUMAN                                      | 601888823F1 NIH_MGC_17 Homo sapiens cDNA clone IMAGE:4123948 5'   |                               |
| 11271                     | 23932                 | 37225             | 105.67               | 0.0E+00                                       | BF362462.1                  | EST_HUMAN                                      | QV2-NN0054-230800-333-ed4 NN0054 Homo sapiens cDNA  |                               |
| 11281                     | 23952                 | 37248             | 2.34                 | 0.0E+00                                       | U36284.1                    | NT   | Human beta-prime-adaptin (BAM22) gene, exon 16  |                               |
| 11281                     | 23952                 | 37250             | 2.34                 | 0.0E+00                                       | U36284.1                    | NT   | Human beta-prime-adaptin (BAM22) gene, exon 16  |                               |
| 11295                     | 23953                 |                   | 3.03                 | 0.0E+00                                       | BE897051.1                  | EST_HUMAN                                      | 601438605F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3924577 5'   |                               |
| 11298                     | 23957                 |                   | 1.73                 | 0.0E+00                                       | 4503788                     | NT   | Human sapiens fyn-related kinase (FRK) mRNA   |                               |
| 11310                     | 23969                 | 37271             | 3.55                 | 0.0E+00                                       | 8923698                     | NT   | Human sapiens gadj1-like protein (GLP) mRNA   |                               |
| 11313                     | 23972                 |                   | 2.69                 | 0.0E+00                                       | BF20762.1                   | EST_HUMAN                                      | 601861947F1 NIH_MGC_53 Homo sapiens cDNA clone IMAGE:4081715 5'   |                               |
| 11314                     | 23973                 |                   | 2.03                 | 0.0E+00                                       | BE257744.1                  | EST_HUMAN                                      | 601116705F1 NIH_MGC_16 Homo sapiens cDNA clone IMAGE:3357384 5'   |                               |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor  |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|---|
| 11327            | 24018           | 37321          | 4.02              | 0.0E+00                              | BE208846.1            | EST_HUMAN  | ba04d07.y1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:28223573 5' similar to TR:076022 076022 E1B-55KDA-ASSOCIATED PROTEIN.;   |
| 11327            | 24018           | 37322          | 4.02              | 0.0E+00                              | BE208846.1            | EST_HUMAN  | ba04d07.y1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:28223573 6' similar to TR:076022 076022 E1B-55KDA-ASSOCIATED PROTEIN.;   |
| 11329            | 24020           | 37324          | 3.88              | 0.0E+00                              | AW753028.1            | EST_HUMAN  | QV0-C70225-101289-071-406 CT0225 Homo sapiens cDNA clone IMAGE:1048342 similar to gbm86178 ALPHAI-42c08.s1 NCI_CGAP_Pt4 Homo sapiens cDNA clone IMAGE:1048342 similar to gbm86178 ALPHAI-ISOFORM (HUMAN); |
| 11334            | 24025           |                | 3.06              | 0.0E+00                              | AA558707.1            | EST_HUMAN  | ACTININ 1, CYTOSKELETAL ISOFORM (HUMAN);  |
| 11335            | 18000           | 30623          | 3.84              | 0.0E+00                              | Ai834854.1            | EST_HUMAN  | wp08g08.x1 NCI_CGAP_Kd12 Homo sapiens cDNA clone IMAGE:2464094 3'   |
| 11336            | 24026           | 37320          | 7.45              | 0.0E+00                              | AW327895.1            | EST_HUMAN  | dr02608.s1 NIH_MGC_3 Homo sapiens cDNA clone IMAGE:2848919 5'   |
| 11355            | 25134           | 37348          | 1.89              | 0.0E+00                              | AW282277.1            | EST_HUMAN  | U1-H-BW1-ajf-d-07-0-U1.s1 NCI_CGAP_Sub6 Homo sapiens cDNA clone IMAGE:2728509 3'  |
| 11382            | 23173           | 36401          | 2.2               | 0.0E+00                              | 4759827 NT            | Homo sapiens neutrophil III (NRXN3) mRNA   |   |
| 11368            | 23875           | 37276          | 1.73              | 0.0E+00                              | BE254068.1            | EST_HUMAN  | 601113003F1 NIH_MGC_18 Homo sapiens cDNA clone IMAGE:3954600 5'   |
| 11371            | 23878           | 37278          | 1.74              | 0.0E+00                              | BE965909.2            | EST_HUMAN  | 6016590388R1 NIH_MGC_70 Homo sapiens cDNA clone IMAGE:3895816 3'  |
| 11371            | 23878           | 37279          | 1.74              | 0.0E+00                              | BE965909.2            | EST_HUMAN  | 6016590388R1 NIH_MGC_70 Homo sapiens cDNA clone IMAGE:3895816 3'  |
| 11372            | 23879           | 37280          | 4.62              | 0.0E+00                              | BE185656.1            | EST_HUMAN  | IL5-HT0731-020500-077-405 HT0731 Homo sapiens cDNA  |
| 11373            | 23880           | 1.29           | 0.0E+00           | BF513960.1                           | EST_HUMAN             | U1-H-BW1-env-a-06-0-U1.s1 NCI_CGAP_Sub7 Homo sapiens cDNA clone IMAGE:3071121 3' |   |
| 11387            | 23883           | 37284          | 7.81              | 0.0E+00                              | AL046540.1            | EST_HUMAN  | DKFZp434G178 n1 434 (synonym: hsc3) Homo sapiens cDNA clone DKFZp434G178 5'   |
| 11387            | 23883           | 37285          | 7.81              | 0.0E+00                              | AL046540.1            | EST_HUMAN  | DKFZp434G178 n1 434 (synonym: hsc3) Homo sapiens cDNA clone DKFZp434G178 5'   |
| 11397            | 24003           | 37306          | 5.89              | 0.0E+00                              | Al8223116.1           | EST_HUMAN  | wn83g03.x1 NCI_CGAP_UH1 Homo sapiens cDNA clone IMAGE:2462468 3' similar to gb:S37431 LAMININ RECEPTOR (HUMAN);   |
| 11401            | 24050           | 37353          | 3.42              | 0.0E+00                              | AA760913.1            | EST_HUMAN  | nz11c07.s1 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:1287468 3' similar to TR:Q13688 Q13688 ALKB HOMOLOG PROTEIN.;  |
| 11401            | 24050           | 37354          | 3.42              | 0.0E+00                              | AA760913.1            | EST_HUMAN  | nz11c07.s1 NCI_CGAP_GCB1 Homo sapiens cDNA clone IMAGE:1287468 3' similar to TR:Q13688 Q13688 ALKB HOMOLOG PROTEIN.;  |
| 11406            | 24055           | 37360          | 1.94              | 0.0E+00                              | BE910464.1            | EST_HUMAN  | 7727112.X1 NCI_CGAP_GLI1 Homo sapiens cDNA clone IMAGE:3802928 5'   |
| 11416            | 23183           | 38413          | 7.9               | 0.0E+00                              | BE676847.1            | EST_HUMAN  | CHECKPOINT SUPPRESSOR 1.;   |
| 11419            | 23186           | 38418          | 1.79              | 0.0E+00                              | BE816888.1            | EST_HUMAN  | 601278355F1 NIH_MGC_39 Homo sapiens cDNA clone IMAGE:3611144 5'   |
| 11419            | 23186           | 38417          | 1.79              | 0.0E+00                              | BE615688.1            | EST_HUMAN  | 601278355F1 NIH_MGC_39 Homo sapiens cDNA clone IMAGE:3611144 5'   |
| 11426            | 23183           | 38424          | 1.81              | 0.0E+00                              | AV757420.1            | EST_HUMAN  | AV757420 BM Homo sapiens cDNA clone BMFAGHD3 5'   |
| 11467            | 24061           | 37367          | 1.52              | 0.0E+00                              | Y18880.1              | NT   | Human endogenous retrovirus type K (HERV-K), gsg, pol and env genes   |
| 11461            | 24064           | 37370          | 10.31             | 0.0E+00                              | L39891.1              | NT   | Homo sapiens polycystic kidney disease-associated protein (PKD1) gene, complete cds   |
| 11461            | 24064           | 37371          | 10.31             | 0.0E+00                              | L39891.1              | NT   | Homo sapiens polycystic kidney disease-associated protein (PKD1) gene, complete cds   |
| 11476            | 24077           | 37387          | 4.69              | 0.0E+00                              | AU138211              | EST_HUMAN  | AU138211 PLACE1 Homo sapiens cDNA clone PLACE1008077 5'   |

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Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal   | Most Similar (Top) BLAST E Value | Top Hit Accession No.                            | Top Hit Database Source  | Top Hit Descriptor |
|------------------|-----------------|----------------|---------------------|----------------------------------|--|--|--------------------|
| 11491            | 240992          | 37404          | 1.92                | 0.0E+00 BE622317.1               | EST_HUMAN  | 601441098F1 NIH_MGC_72 Homo sapiens cDNA clone IMAGE:3916270 5'  |                    |
| 11618            | 24118           | 37428          | 1.42                | 0.0E+00 AL839834.1               | EST_HUMAN  | fm94c10_35 NC1_CGAP_Bm25 Homo sapiens cDNA clone IMAGE:2165778 3'  |                    |
| 11629            | 24129           | 37434          | 13.79               | 0.0E+00 BE748899.1               | EST_HUMAN  | 601572188T1 NIH_MGC_55 Homo sapiens cDNA clone IMAGE:3889012 3'  |                    |
| 11629            | 24129           | 37435          | 13.79               | 0.0E+00 BE748899.1               | EST_HUMAN  | 601572188T1 NIH_MGC_55 Homo sapiens cDNA clone IMAGE:3889012 3'  |                    |
| 11639            | 24139           | 37447          | 1.81                | 0.0E+00 AU141882.1               | EST_HUMAN  | AU141882 THYR01 Homo sapiens cDNA clone THYRO1001398 5'  |                    |
| 11639            | 24139           | 37448          | 1.81                | 0.0E+00 AU141882.1               | EST_HUMAN  | AU141882 THYR01 Homo sapiens cDNA clone THYRO1001398 5'  |                    |
| 11542            | 24142           | 37451          | 2.08                | 0.0E+00 AW006022.1               | EST_HUMAN  | w281101_x1 NCI_OGAP_Bm25 Homo sapiens cDNA clone IMAGE:3316889 3' similar to WP:F33H110.2 CE11040 ZINC FINGER_C2H2 TYPE: |                    |
| 11546            | 25135           | 37455          | 3.49                | 0.0E+00 BF002233.1               | EST_HUMAN  | 7h22b10_x1 NCI_OGAP_Co16 Homo sapiens cDNA clone IMAGE:3316889 3' similar to TR:Q13458 Q13458                            |                    |
| 11571            | 24170           | 37485          | 2.88                | 0.0E+00 AW387776.1               | EST_HUMAN  | MR4-ST0118-261098-012-b03 ST0118 Homo sapiens cDNA TRIO:   |                    |
| 11571            | 24170           | 37486          | 2.88                | 0.0E+00 AW387776.1               | EST_HUMAN  | MR4-ST0118-261098-012-b03 ST0118 Homo sapiens cDNA TRIO:   |                    |
| 11582            | 24181           | 2.41           | 0.0E+00 AW833777.1  | EST_HUMAN                        | MR3-SN0010-31030-107-103 SN010 Homo sapiens cDNA |  |                    |
| 11601            | 24200           | 37521          | 4.76                | 0.0E+00 11435244 NT              |  | Homo sapiens KIAA0247 gene product (KIAA0247), mRNA  |                    |
| 11601            | 24200           | 37522          | 4.76                | 0.0E+00 11435244 NT              |  | Homo sapiens KIAA0247 gene product (KIAA0247), mRNA  |                    |
| 11608            | 24208           | 37529          | 5.87                | 0.0E+00 U36253.1                 | NT   | Human beta-prime-adaptin (BAM22) gene, exon 6  |                    |
| 11612            | 24210           | 37533          | 2.29                | 0.0E+00 BE378254.1               | EST_HUMAN  | 601237691F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3809823 5'  |                    |
| 11612            | 24210           | 37534          | 2.29                | 0.0E+00 BE379254.1               | EST_HUMAN  | 601237691F1 NIH_MGC_44 Homo sapiens cDNA clone IMAGE:3809823 5'  |                    |
| 11632            | 24228           | 37553          | 2.22                | 0.0E+00 BE794758.1               | EST_HUMAN  | 601560588F1 NIH_MGC_7 Homo sapiens cDNA clone IMAGE:3944708 5'   |                    |
| 11634            | 24231           | 37554          | 45.09               | 0.0E+00 BE879853.1               | EST_HUMAN  | 601491821F1 NIH_MGC_68 Homo sapiens cDNA clone IMAGE:3894220 5'  |                    |
| 11640            | 24237           | 37560          | 1.62                | 0.0E+00 4758827 NT               |  | Homo sapiens neutrophil III (NPRX3) mRNA   |                    |
| 11640            | 24237           | 37561          | 1.62                | 0.0E+00 4768827 NT               |  | Homo sapiens neutrophil III (NPRX3) mRNA   |                    |
| 11644            | 24241           | 37565          | 1.85                | 0.0E+00 AF053543.1               | NT   | Homo sapiens glutathione transferase zeta 1 (GSTZ1) gene, exons 6 and 7  |                    |
| 11646            | 24243           | 1.95           | 0.0E+00 AL1631204.2 | NT                               | Homo sapiens chromosome 21 segment HS21C004      |  |                    |
| 11653            | 24250           | 37572          | 14.06               | 0.0E+00 BE408893.4               | EST_HUMAN  | 601288403F1 NIH_MGC_21 Homo sapiens cDNA clone IMAGE:3628544 5'  |                    |
| 11654            | 24251           | 37573          | 1.48                | 0.0E+00 BE148650.1               | EST_HUMAN  | MRO-HT0241-150500-011-002 HT0241 Homo sapiens cDNA   |                    |
| 11655            | 24252           | 37574          | 2.89                | 0.0E+00 AF223391.1               | NT   | Homo sapiens calcium channel alpha1E subunit (CACNA1E) gene, exons 7-49, and partial cds, alternatively spliced          |                    |
| 11655            | 24252           | 37575          | 2.69                | 0.0E+00 AF223391.1               | NT   | Homo sapiens calcium channel alpha1E subunit (CACNA1E) gene, exons 7-49, and partial cds, alternatively spliced          |                    |
| 11657            | 18187           | 30878          | 1.29                | 0.0E+00 D26535.1                 | NT   | Human gene for dihydrodipicolinate succinyltransferase, complete cds (exon 1-15)   |                    |
| 11657            | 18187           | 30879          | 1.29                | 0.0E+00 D26535.1                 | NT   | Human gene for dihydrodipicolinate succinyltransferase, complete cds (exon 1-15)   |                    |
| 11658            | 24254           | 37576          | 5.6                 | 0.0E+00 BF881641.1               | EST_HUMAN  | 602155722F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE:4298725 5'  |                    |
| 11658            | 24254           | 37577          | 5.6                 | 0.0E+00 BF881641.1               | EST_HUMAN  | 602155722F1 NIH_MGC_83 Homo sapiens cDNA clone IMAGE:4298725 5'  |                    |

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Single Exon Probes Expressed in Brain

| Probe SEQ ID NO: | Exon NO: | ORF SEQ ID NO: | Expression Signal | Most Similar BLAST E Value | Top Hit Accession No. | Top Hit Databases Source   | Top Hit Descriptor  |
|------------------|----------|----------------|-------------------|----------------------------|-----------------------|--|---|
| 11662            | 24258    |                | 1.93              | 0.0E+00                    | 6008002 NT            |  | Homo sapiens glutamate receptor, ionotropic, N-methyl D-aspartate 2A (GRIN2A) mRNA      |
| 11684            | 17906    | 30593          | 1.5               | 0.0E+00 AF272683.1         | NT                    |  | Homo sapiens dephytin mRNA, complete cds  |
| 11687            | 24282    | 37583          | 1.71              | 0.0E+00 AU132840.1         | EST HUMAN             | AU132840 NT2RP4 Homo sapiens cDNA clone IMAGE_3858835 5'   |   |
| 11670            | 24285    | 37583          | 1.35              | 0.0E+00 BE903372.1         | EST HUMAN             | 601676357F1 NIH_MSC_21 Homo sapiens cDNA clone IMAGE_3858835 5'  |   |
| 11687            | 24282    | 37604          | 2.5               | 0.0E+00 X51755.1           | NT                    | Human limbata-immunglobulin constant region complex (germline)   |   |
| 11687            | 24282    | 37605          | 2.5               | 0.0E+00 X51755.1           | NT                    | Human limbata-immunglobulin constant region complex (germline)   |   |
| 11728            | 25138    |                | 15.74             | 0.0E+00 BF309120.1         | EST HUMAN             | 601890534F1 NIH_MSC_17 Homo sapiens cDNA clone IMAGE_4131416 5'  |   |
| 11737            | 24330    | 37654          | 11.98             | 0.0E+00 BE297176.1         | EST HUMAN             | 601177407F1 NIH_MSC_17 Homo sapiens cDNA clone IMAGE_3632988 5'  |   |
| 11751            | 24342    | 37671          | 1.3               | 0.0E+00 BE744311.1         | EST HUMAN             | 6015768525F1 NIH_MSC_9 Homo sapiens cDNA clone IMAGE_3837222 5'  |   |
| 11751            | 24342    | 37672          | 1.3               | 0.0E+00 BE744311.1         | EST HUMAN             | 6015768525F1 NIH_MSC_9 Homo sapiens cDNA clone IMAGE_3837222 5'  |   |
| 11757            | 24348    | 37673          | 1.43              | 0.0E+00 BE257612.1         | EST HUMAN             | 601113009F1 NIH_MSC_16 Homo sapiens cDNA clone IMAGE_3833378 5'  |   |
| 11757            | 24348    | 37679          | 1.43              | 0.0E+00 BE257612.1         | EST HUMAN             | 601113009F1 NIH_MSC_16 Homo sapiens cDNA clone IMAGE_3833378 5'  |   |
| 11785            | 24375    | 37705          | 1.69              | 0.0E+00 BE257698.1         | EST HUMAN             | 601114240F1 NIH_MSC_16 Homo sapiens cDNA clone IMAGE_3834872 5'  |   |
| 11790            | 24380    | 37710          | 1.68              | 0.0E+00 AW749184.1         | EST HUMAN             | PM1-BT0348-151289-001-ct11 BT0348 Homo sapiens cDNA  |   |
| 11790            | 24380    | 37711          | 1.68              | 0.0E+00 AW749184.1         | EST HUMAN             | PM1-BT0348-151289-001-ct11 BT0348 Homo sapiens cDNA  |   |
| 11792            | 24382    | 37713          | 2.23              | 0.0E+00 AW397811.1         | EST HUMAN             | MRO-HT0168-271189-005-893 HT0168 Homo sapiens cDNA   |   |
| 11792            | 24382    | 37714          | 2.23              | 0.0E+00 AW397811.1         | EST HUMAN             | MRO-HT0168-271189-005-893 HT0168 Homo sapiens cDNA   |   |
| 11797            | 24387    | 37720          | 2.46              | 0.0E+00 AU117874.1         | EST HUMAN             | AU117874 HEMBA1 Homo sapiens cDNA clone HEMBA1002612 5'  |   |
| 11797            | 24387    | 37721          | 2.46              | 0.0E+00 AU117874.1         | EST HUMAN             | AU117874 HEMBA1 Homo sapiens cDNA clone HEMBA1002612 5'  |   |
| 11808            | 14946    |                | 1.31              | 0.0E+00 U36284.1           | NT                    | Human beta-prime-adaptin (BAM22) gene, exon 16   |   |
| 11821            | 18891    | 31659          | 2.45              | 0.0E+00 U072223.1          | NT                    | Human beta2-chimaerin mRNA, complete cds   |   |
| 11822            | 24407    | 37741          | 5.54              | 0.0E+00 Z31706.1           | NT                    | H_sapiens GLAST1 gene for glutamate transporter, exon 8  |   |
|                  |          |                |                   |                            |                       |  | 15880221 NCI_CGAP_GC8 Homo sapiens cDNA clone IMAGE_2243067 3' similar to SW-CG2G_HUMAN |
|                  |          |                |                   |                            |                       |  | P51859 C2/MITOTIC-SPECIFIC CYCLIN G1.;  |
| 11835            | 24419    | 37760          | 2.28              | 0.0E+00 AI6861185.1        | EST HUMAN             |  |   |
| 11837            | 24421    | 37762          | 2.31              | 0.0E+00 AU132394.1         | EST HUMAN             | AU132394 NT2RP3 Homo sapiens cDNA clone IMAGE_3503020 5'   |   |
| 11879            | 25359    | 30600          | 2.27              | 0.0E+00 BE312542.1         | EST HUMAN             | 601150023F1 NIH_MSC_19 Homo sapiens cDNA clone IMAGE_3503020 5'  |   |
| 11893            | 25257    |                | 3.89              | 0.0E+00 AI190883.1         | EST HUMAN             | q617b12.x1 Scores fetal lung_NbHL19W Homo sapiens cDNA clone IMAGE_1738231 3'  |   |
| 11902            | 24468    |                | 1.6               | 0.0E+00 AB011399.1         | NT                    | Homo sapiens gene for AF-6, complete cds   |   |
| 11921            | 24482    |                | 4.9               | 0.0E+00 AL163246.2         | NT                    | Homo sapiens chromosome 21 segment HS21C048  |   |
| 11929            | 24488    |                | 4.1               | 0.0E+00 114177862          | NT                    | Homo sapiens calretinin binding protein 1 (KIAA0330), mRNA   |   |
| 11947            | 24501    |                | 3.05              | 0.0E+00 5802673            | NT                    | Homo sapiens antioxidant protein 1 (AOX1), nuclear gene encoding mitochondrial protein, mRNA                             |   |
| 11882            | 25218    | 30816          | 2.59              | 0.0E+00 AF240788.1         | NT                    | Homo sapiens glutathione S-transferase theta 2 (GSTT2) and glutathione S-transferase theta 1 (GSTT1) genes, complete cds |   |
| 11893            | 25226    |                | 6.39              | 0.0E+00 AL041831.1         | EST HUMAN             | DKFZp434K0819_T1 434 (synonym: htes3) Homo sapiens cDNA clone DKFZp434K0819 5'   |   |

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| Probe SEQ ID NO: | Exon SEQ ID NO: | ORF SEQ ID NO: | Expression Signal | Most Similar (Top) Hit BLAST E Value | Top Hit Accession No. | Top Hit Database Source  | Top Hit Descriptor   |
|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--|
| 12016            | 25369           |                |                   | 3.12                                 | 0.0E+00               | 11416318 NT  | Homo sapiens G-2 and S-phase expressed 1 (GTSE1), mRNA   |
| 12023            | 24551           |                |                   | 3.91                                 | 0.0E+00               | AL046544.1 EST_HUMAN   | DKFZp434G218 J1 434 (synonym: hies3) Homo sapiens cDNA clone DKFZp434G218 5'   |
| 12037            | 25261           |                |                   | 1.68                                 | 0.0E+00               | AI803487.1 EST_HUMAN   | IL-BT030-271098-001 BT030 Homo sapiens cDNA  |
| 12076            | 25380           |                |                   | 1.52                                 | 0.0E+00               | N54484.1 EST_HUMAN   | y440608.31 Soares fetal liver spleen 1NFL5 Homo sapiens cDNA clone IMAGE:245222 3' similar to SW-POL_BAEVM P10272 POL POLYPROTEIN;                       |
| 12089            | 24594           |                |                   | 5.88                                 | 0.0E+00               | AF108658.1 NT  | Homo sapiens edamylsuccinate lyase gene, complete cds  |
| 12092            | 13583           |                |                   | 3.39                                 | 0.0E+00               | 4507500 NT   | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TUM1) mRNA   |
| 12092            | 13583           |                |                   | 3.39                                 | 0.0E+00               | 4507500 NT   | Homo sapiens T-cell lymphoma invasion and metastasis 1 (TUM1) mRNA   |
| 12100            | 25284           |                |                   | 2.21                                 | 0.0E+00               | 10092587 NT  | Homo sapiens nuclear factor of activated T-cells, cytoplasmic, calcineurin-dependent 2 (NFATC2), mRNA  |
| 12129            | 13313           |                |                   | 2.04                                 | 0.0E+00               | AF032528.1 NT  | Homo sapiens X-linked amiodrotoxic ectodermal dysplasia protein gene (EDA), exon 2 and flanking repeat regions   |
| 12128            | 25198           | 30814          |                   | 2.63                                 | 0.0E+00               | AW590382.1 EST_HUMAN   | hg31e083_x1 NCI_CGAP_Gc6 Homo sapiens cDNA clone IMAGE:2947234 3' similar to contains Alu repetitive element; contains element MER22 repetitive element; |
| 12229            | 25248           |                |                   | 1.34                                 | 0.0E+00               | BE090210.1 EST_HUMAN   | RC8-BT0711-280300-011-D05 BT0711 Homo sapiens cDNA   |
| 12273            | 25253           |                |                   | 4.43                                 | 0.0E+00               | AF058757.1 NT  | Homo sapiens somatostatin receptor subtype 3 (SSTR3) gene, 5' flanking region and partial cds  |
| 12308            | 24732           |                |                   | 3.38                                 | 0.0E+00               | 9835487 NT   | Human endogenous retrovirus, complete genome   |
| 12351            | 25252           |                |                   | 2.41                                 | 0.0E+00               | AI204914.1 EST_HUMAN   | an05h04_x1 Strategene schizo brain S11 Homo sapiens cDNA clone IMAGE:1684759 3'  |
| 12383            | 24773           |                |                   | 1.68                                 | 0.0E+00               | AI904646.1 EST_HUMAN   | QV-BT065-020399-103 BT065 Homo sapiens cDNA  |
| 12405            | 14718           | 27436          |                   | 1.51                                 | 0.0E+00               | 6912457 NT   | Homo sapiens calcineurin binding protein 1 (KIAA0330), mRNA  |
| 12405            | 14718           | 27437          |                   | 1.51                                 | 0.0E+00               | 6912457 NT   | Homo sapiens calcineurin binding protein 1 (KIAA0330), mRNA  |
| 12423            | 24789           | 31059          |                   | 2.08                                 | 0.0E+00               | AF036365.1 NT  | Homo sapiens caveolin-3 (CAV3) mRNA, complete cds  |
| 12435            | 14424           | 27119          |                   | 2.78                                 | 0.0E+00               | H30132.1 EST_HUMAN   | y659e08.11 Soares breast 3NBHB5L TRANSPEPTIDASE 5 PRECURSOR (HUMAN); GAMMA-GLUTAMYLTRANSPEPTIDASE IMAGE:182246 5' similar to gb:M64089                   |
| 12435            | 14424           | 27120          |                   | 2.78                                 | 0.0E+00               | H30132.1 EST_HUMAN   | GAMMA-GLUTAMYLTRANSPEPTIDASE 5 PRECURSOR (HUMAN);  |
| 12448            | 24818           |                | 10.68             | 0.0E+00                              | D506589.1 NT          | Human gamma-cytoplasmic actin (ACTGP9) pseudogene                |  |
| 12448            | 24818           |                | 2.61              | 0.0E+00                              | 11416189 NT           | Homo sapiens thyroid autoantigen 70kD (Ku antigen) (G22P1), mRNA |  |
| 12448            | 24818           |                | 2.51              | 0.0E+00                              | 11416189 NT           | Homo sapiens thyroid autoantigen 70kD (Ku antigen) (G22P1), mRNA |  |
| 12464            | 14817           | 27549          |                   | 1.53                                 | 0.0E+00               | 4758489 NT   | Homo sapiens GTP binding protein 1 (GTPBP1) mRNA   |
| 12502            | 24856           |                |                   | 1.5                                  | 0.0E+00               | AW684689.1 EST_HUMAN   | H86e08_x1 Soares NFL_T_GBC_S1 Homo sapiens cDNA clone IMAGE:2879154 3'   |
| 12538            | 13953           | 26617          |                   | 2.09                                 | 0.0E+00               | 8922593 NT   | Homo sapiens hypothetical protein FLJ10687 (FLJ10687), mRNA  |
| 12544            | 24884           |                |                   | 1.88                                 | 0.0E+00               | 115262291 NT   | Homo sapiens hypothetical protein FLJ20454 (FLJ20454), mRNA  |
| 12568            | 16069           | 28713          |                   | 4.24                                 | 0.0E+00               | 4885312 NT   | Homo sapiens G protein-coupled receptor 24 (GPR24), mRNA   |

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|------------------|-----------------|----------------|-------------------|--------------------------------------|-----------------------|--|--|
| 12676            | 17805           | 30592          | 3.05              | 0.0E+00                              | 68068918              | NT   | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA                      |
| 12682            | 24905           |                | 2.12              | 0.0E+00                              | AB028890.1            | NT   | Homo sapiens CST gene for cerebroside sulfotransf erase, exon 1, 2, 3, 4, 5              |
| 12622            | 24927           | 31009          | 2.08              | 0.0E+00                              | 9558724               | NT   | Homo sapiens cleavage and polyadenylation specific factor 1, 160kD subunit (CPSF1), mRNA |
| 12648            | 25410           |                | 2.98              | 0.0E+00                              | AL163246.2            | NT   | Homo sapiens chromosome 21 segment HS21 C046   |
| 12664            | 13330           | 26021          | 2.77              | 0.0E+00                              | 68068918              | NT   | Homo sapiens low density lipoprotein-related protein 2 (LRP2), mRNA                      |
| 12726            | 24989           | 30972          | 1.5               | 0.0E+00                              | 11417862              | NT   | Homo sapiens calcineurin binding protein 1 (KIAA0390), mRNA                              |
| 12735            | 25004           |                | 4                 | 0.0E+00                              | 7657020               | NT   | Homo sapiens DKFZp434P211 protein (DKFZp434P211), mRNA                                   |
|                  |                 |                |                   |                                      | wu8307_x1             | NCI CGAP Kid3 Homo sapiens cDNA clone IMAGE:2527586 3' similar to TR-Q12844 Q12844 |  |
| 12780            | 25042           | 30967          | 1.76              | 0.0E+00                              | AW028032.1            | EST_HUMAN  | BREAK-POINT CLUSTER REGION PROTEIN contains TAR1.13 TAR1 repetitive element;             |
| 12808            | 13380           | 26550          | 1.37              | 0.0E+00                              | 8868844               | NT   | Homo sapiens chromosome 12 open reading frame 3 (C12orf3), mRNA                          |
| 12818            | 25251           |                | 1.39              | 0.0E+00                              | AF083624.1            | NT   | Homo sapiens dihydropyridine receptor alpha 2 subunit (CACNA2D1) gene, exon 8            |

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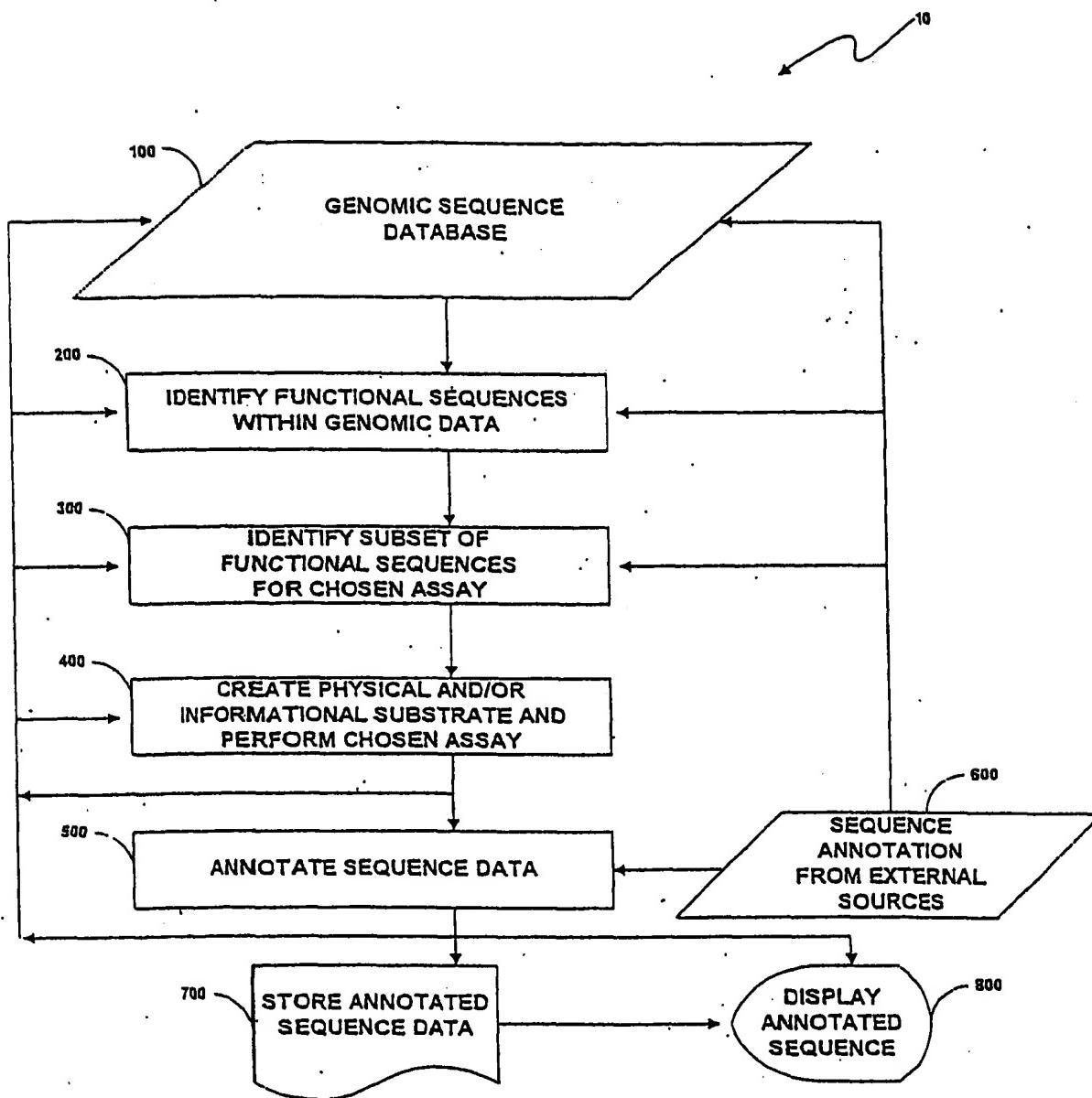


Fig. 1

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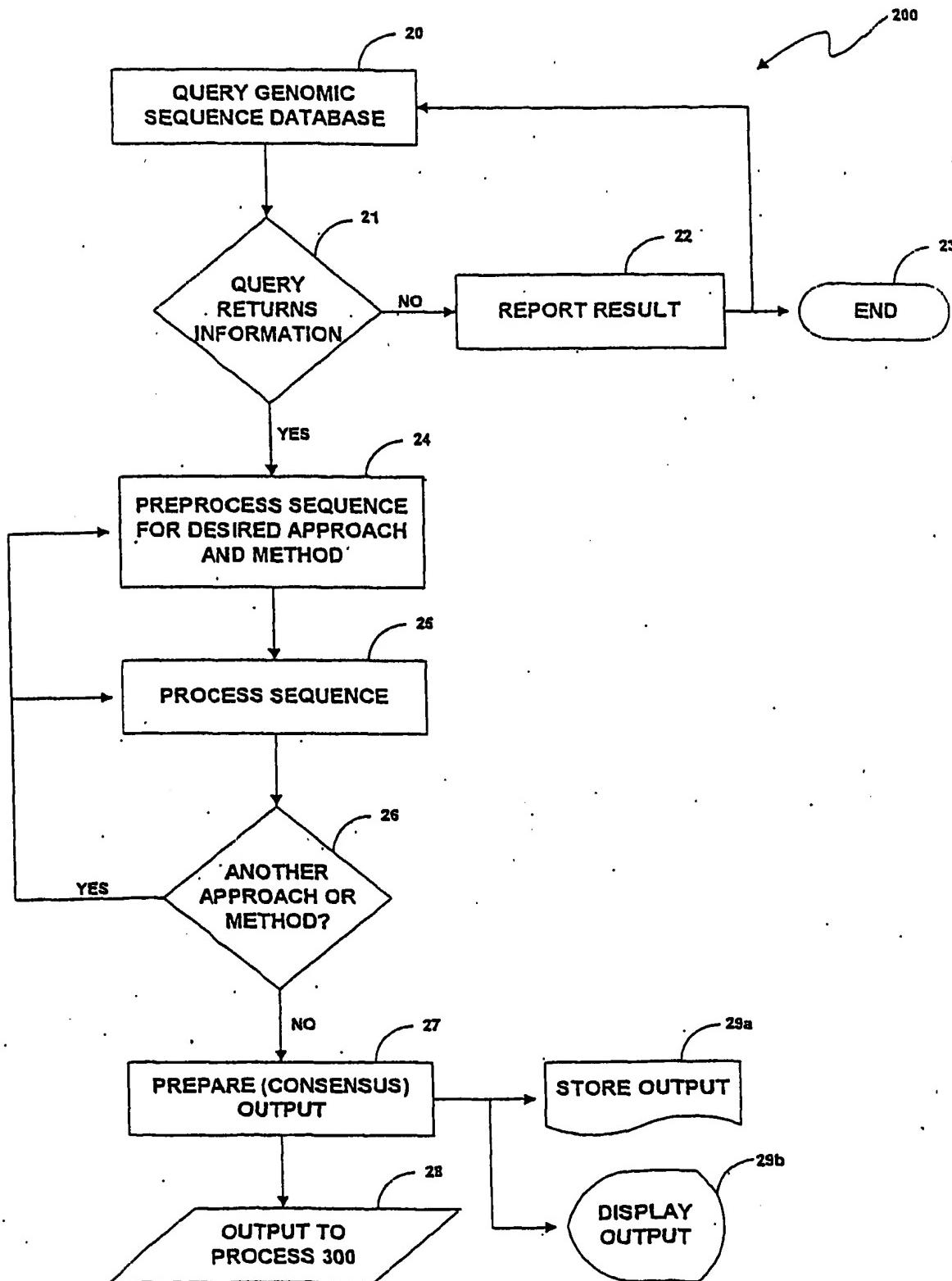


Fig. 2

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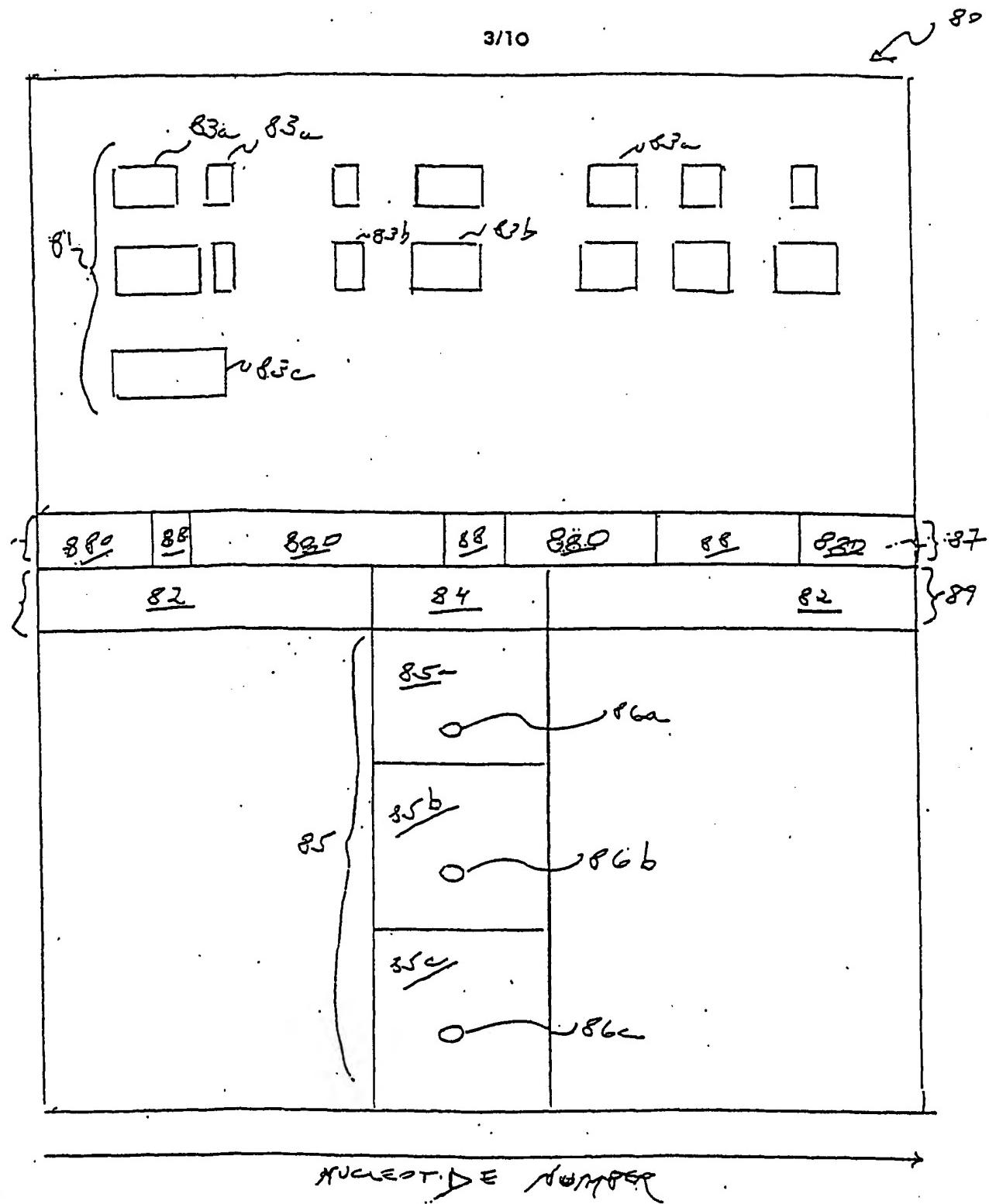


Fig. 3

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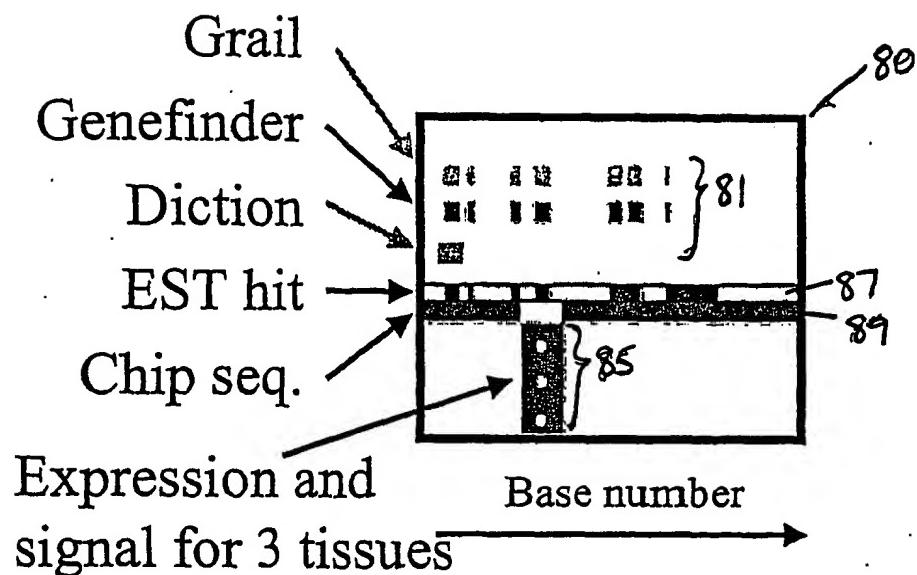


Fig. 4

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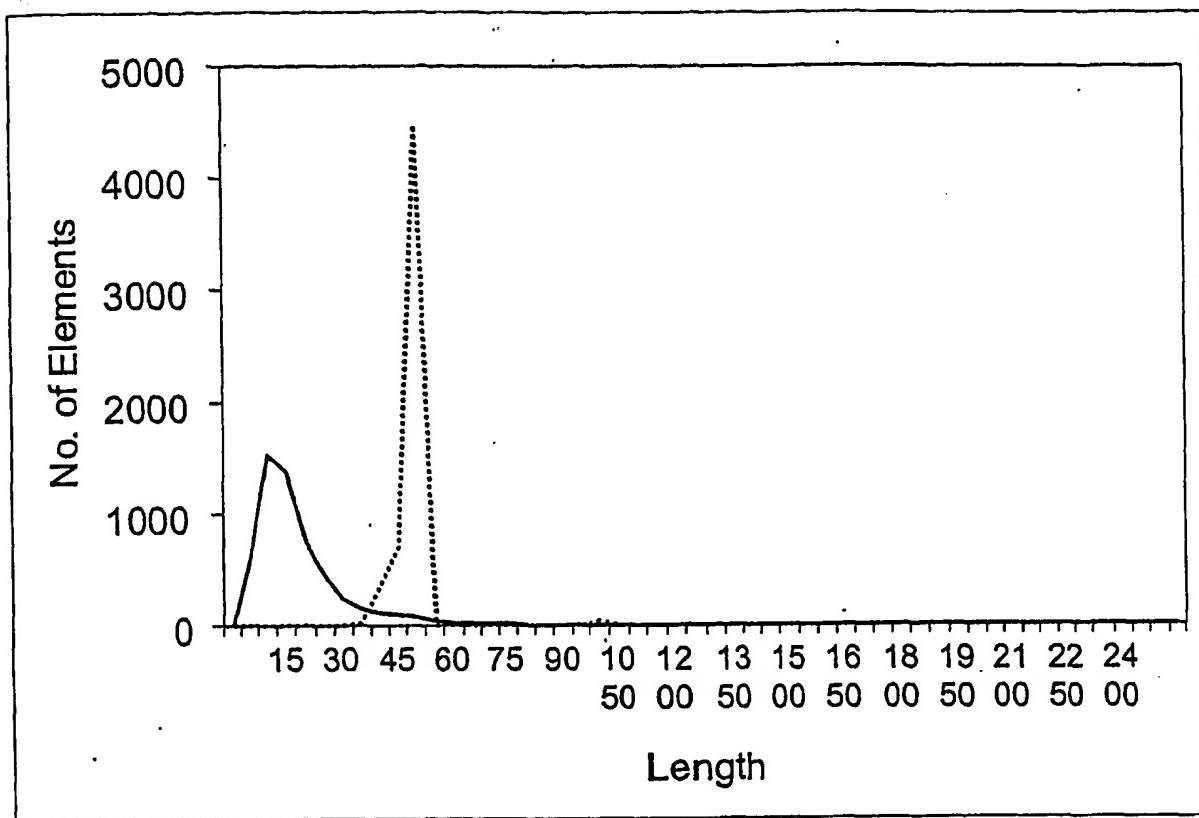


Fig. 5

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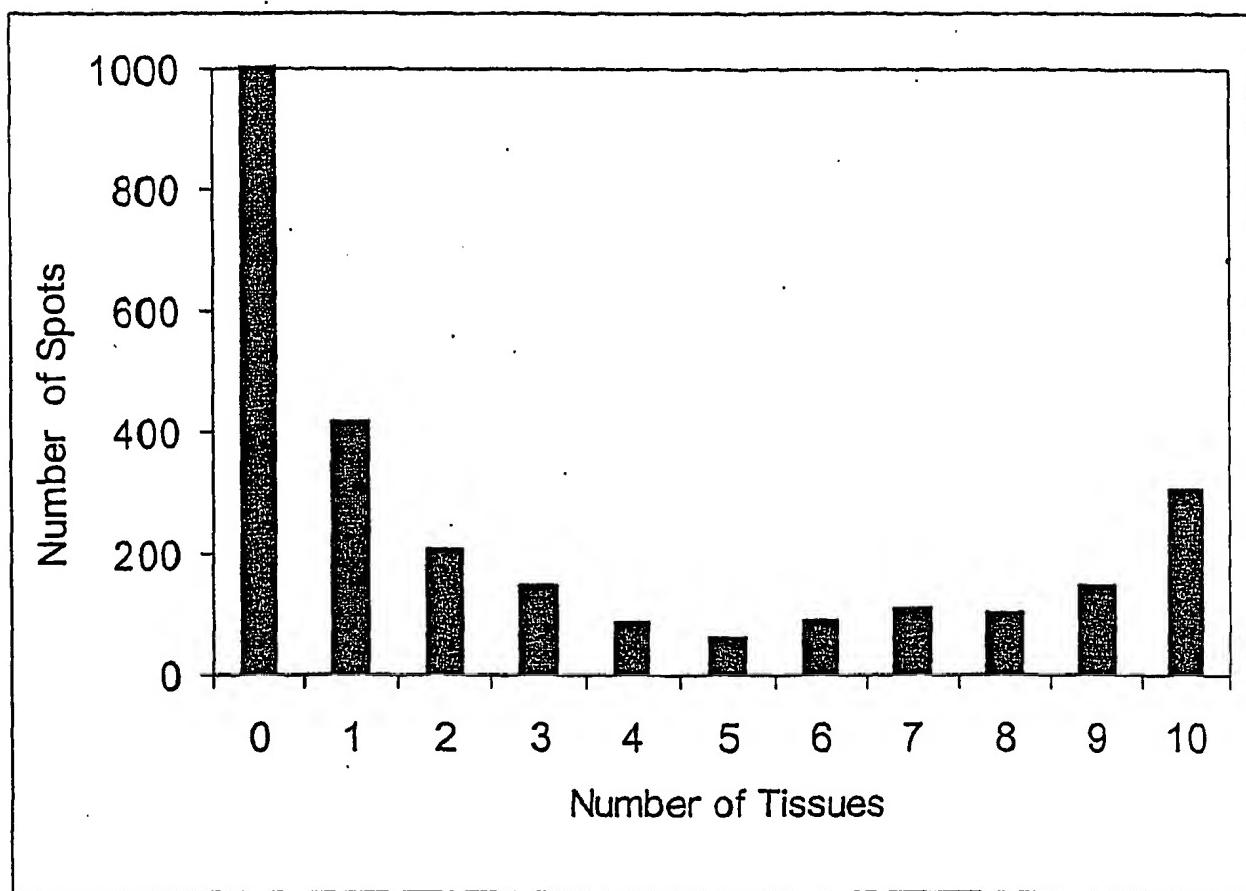


Fig. 6

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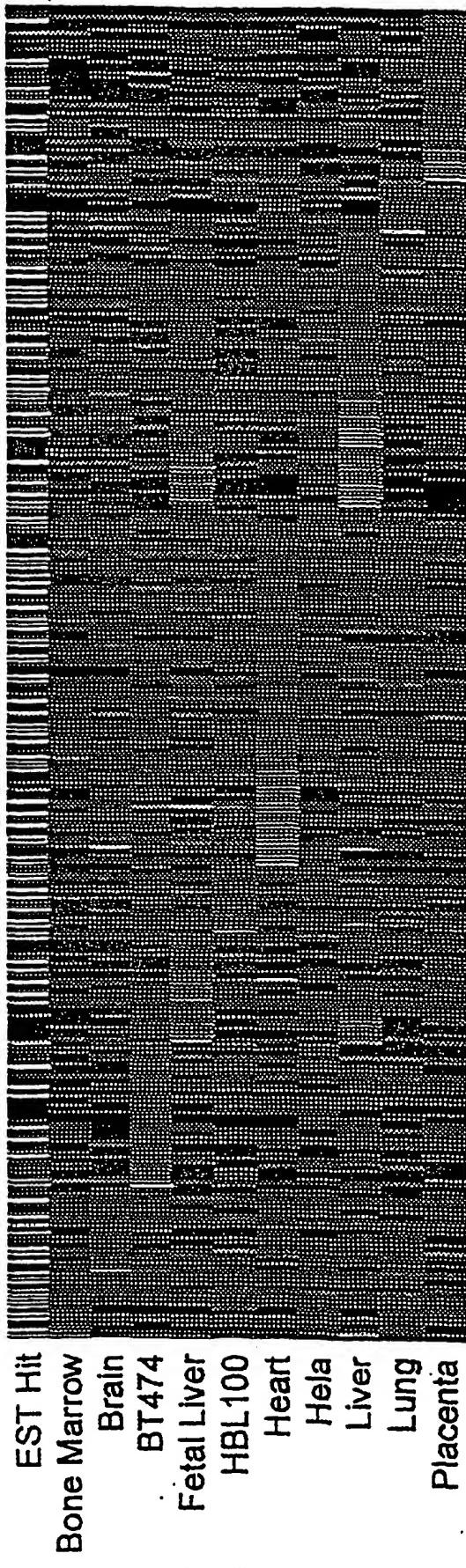


Fig. 7a

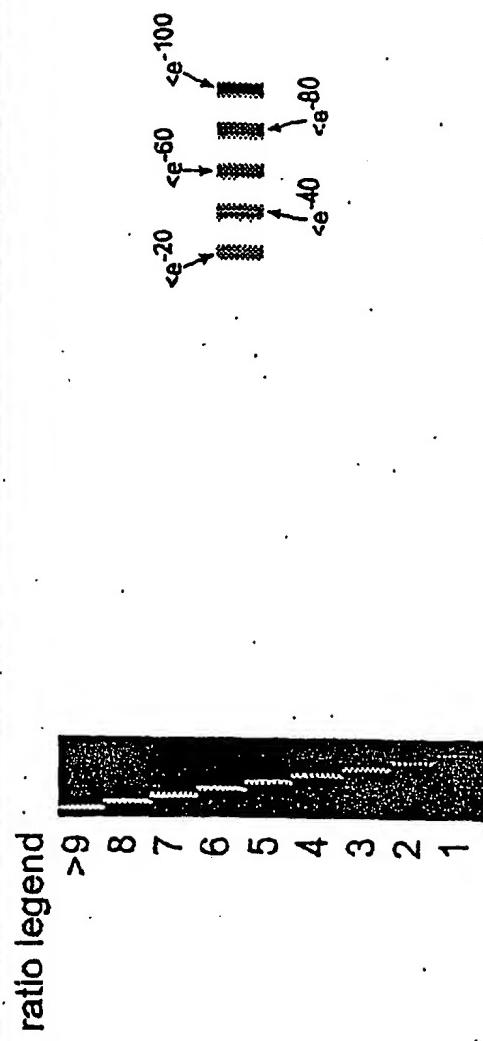


Fig. 7b

Fig. 7c

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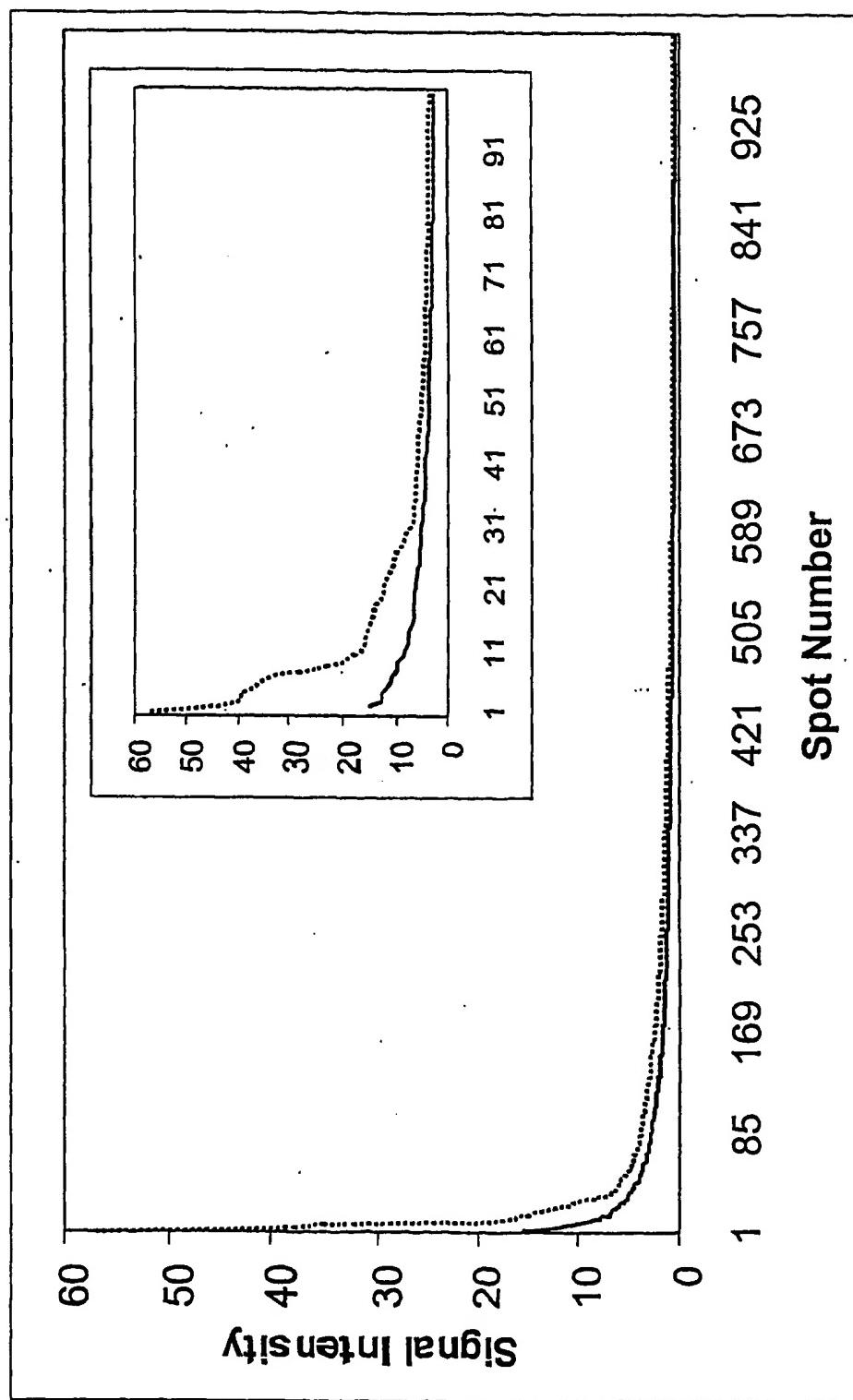


Fig. 8

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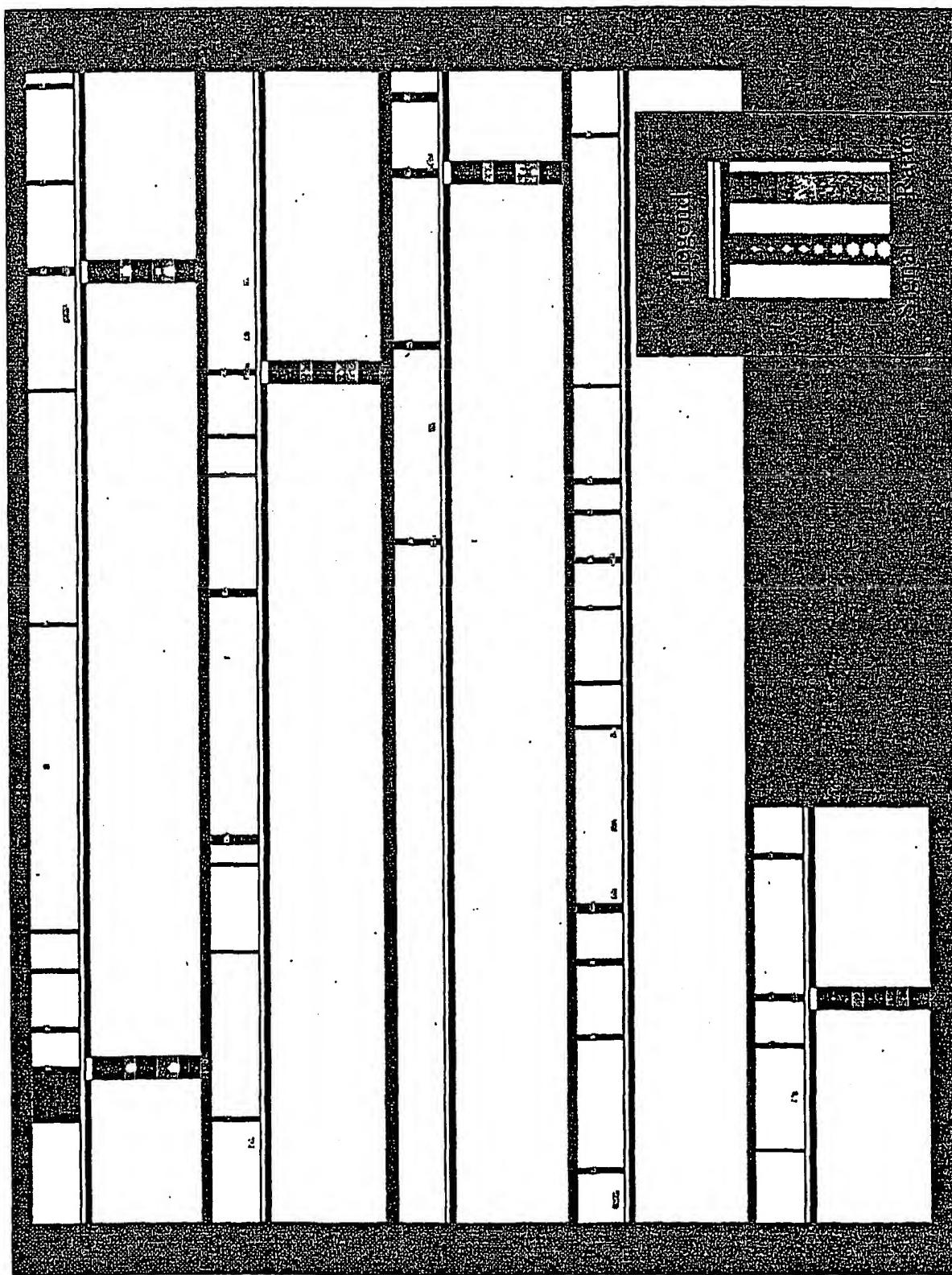


Fig. 9

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Fig. 10

